FINAL SITE ASSESSMENT REPORT
INGERSOLL PRODUCTS SITE
CHICAGO, COOK COUNTY, ILLINOIS

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 5 Emergency Response Branch
77 West Jackson Boulevard
Chicago, IL 60604

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1.0 INTRODUCTION

The Tetra Tech EM Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) was tasked by the U.S. Environmental Protection Agency (U.S. EPA) to perform a site assessment for the Ingersoll Products (Ingersoll) site in Chicago, Cook County, Illinois, under Technical Direction Document (TDD) No. S05-0508-018. Specifically, START- was directed to compile available site information, develop a site safety plan and sampling plan, perform a site reconnaissance, collect site samples, retain an analytical laboratory, develop photographic documentation of site conditions, provide a written log documenting all on-site activities, evaluate potential threats posed by the site to human health and the environment, and prepare this site assessment report.

The site assessment was performed in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and Title 40 of the *Code of Federal Regulations* (CFR), Section 300.415(b)(2), to evaluate site conditions and possible threats to human health, public welfare, and the environment. This report discusses site background information, site assessment activities, sample analytical results, and potential site-related threats, and includes a summary of the assessment. In addition, Appendix A contains a photographic log of site features, Appendix B contains a data validation report and validated analytical results for site samples collected by START, Appendix C contains a removal cost estimate for the site, and Appendix D contains a list of witnesses for the site assessment.

2.0 SITE BACKGROUND

This section describes the Ingersoll site, and provides information on its history.

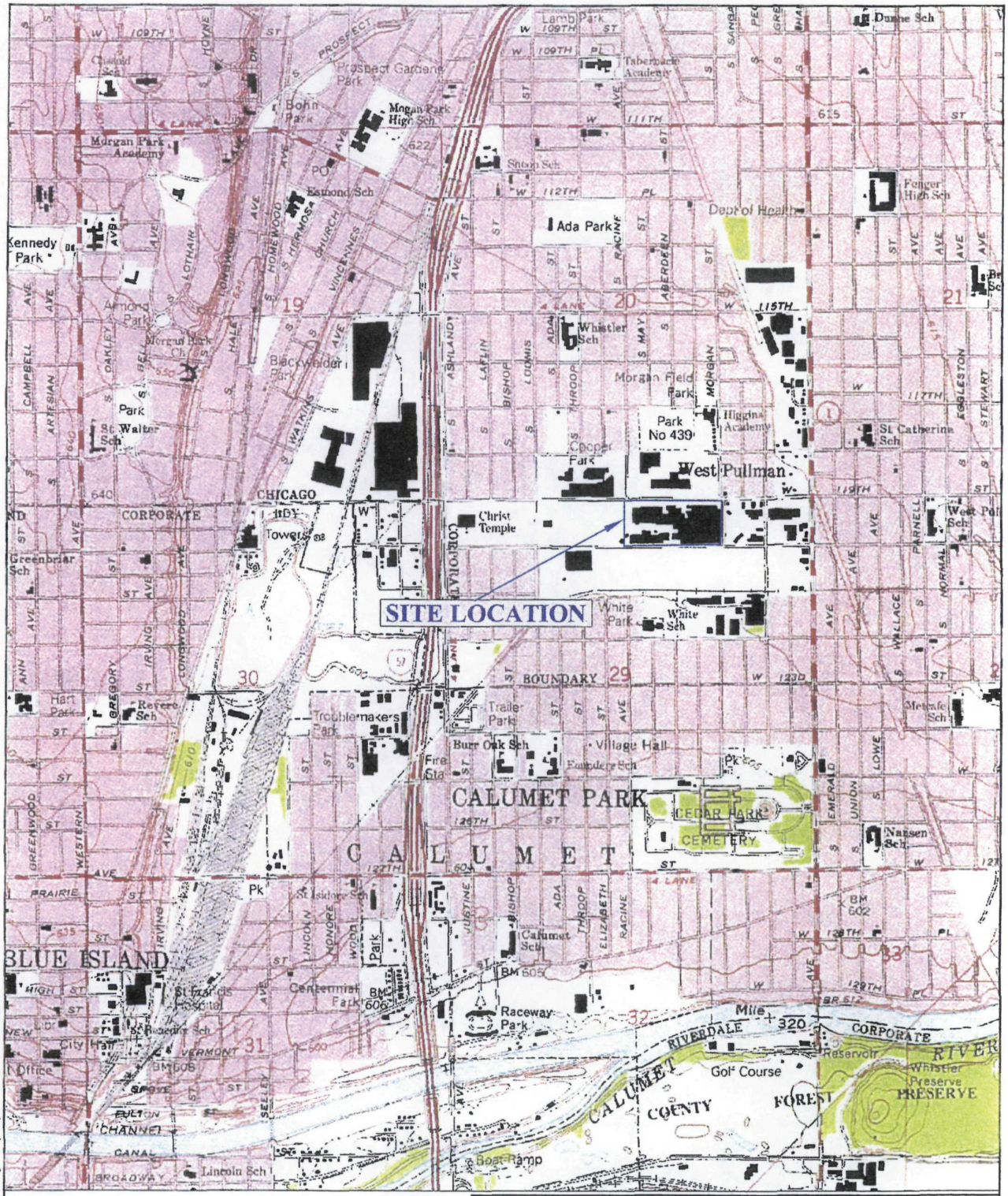
2.1 SITE DESCRIPTION

The Ingersoll site is located in an industrial area at 1000 West 120th Street in Chicago, Cook County, Illinois (see Figure 1). The site is bordered by 119th Street to the north, South Morgan Street to the east, 120th Street to the south, and vacant industrial properties to the west. The geographic coordinates for the site are latitude 41°40'35" north and longitude 87°38'49" west. The site property measures approximately 12 acres and includes more than a dozen interconnected buildings that are vacant and unused (see Figure 2). A fire in the summer of 2004 destroyed a portion of the former administration areas (referred to in Figure 2 as Buildings 111, 112, 113, and 114) located in the southeast portion of the site. A chain-link fence surrounding the site contains large gaps.

2.2 SITE HISTORY

As part of a limited Phase II environmental site assessment (ESA) performed in February 2004, Tetra Tech reviewed the site history through a review of Sanborn Fire Insurance maps from the years 1911, 1939, 1950, 1975, and 1987; aerial photographs of the site; and previous investigation reports.

The 1911 map indicates that the eastern portion of the site was operated by Whitman & Barnes Manufacturing Company for the production of lawn mowers and haymaking tools. Included on the 1911 map are a machine shop, an oil house, a gas machine room, an underground gas oil tank, fuel oil tanks, four heater rooms, two engines, and two dynamos. The 1939 map indicates that the site was operated by the Ingersoll Steel Disk Division of Borg-Warner Corporation. The 1939 map shows many additions to the site, including four transformer rooms, a Commonwealth Edison electrical substation, an enameling room, an aboveground storage tank (AST) for oil, three oil houses, and a pickling area. The 1950 map shows additions to the site that include a sulfuric acid tank, additional enameling rooms, and a cleaning room. The 1975 map indicates additions to the site including a dipping room, an oven, and an annealing room. The 1987map indicates no changes from the 1975 map.



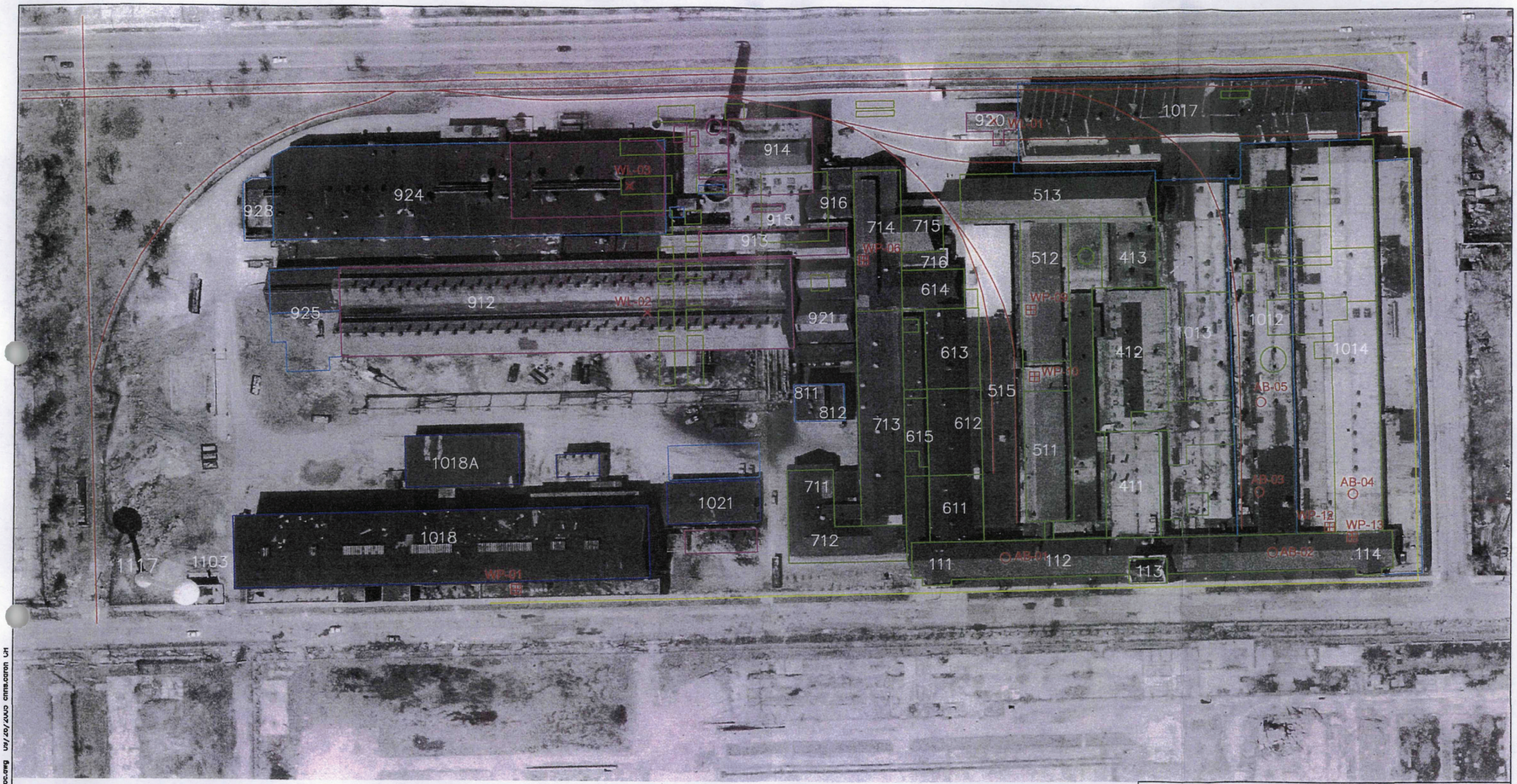
INGERSOLL PRODUCTS
1000 W. 120th STREET
CHICAGO, ILLINOIS
TDD NO.: S05-0508-018

FIGURE 1
SITE LOCATION MAP

Tetra Tech EM Inc.

SOURCE: MODIFIED FROM USGS, 7.5-MINUTE TOPOGRAPHIC MAP OF BLUE ISLAND, ILLINOIS, QUADRANGLE, 1993

G:\G\9009\L0508018\ IngersollSiteloc.dwg 09/15/2005 chris.caron CH



LEGEND

AB-04 ○ ASBESTOS SAMPLE LOCATION

WP-04 ⊞ WIPE SAMPLE LOCATION

WL-02 × LIQUID WASTE SAMPLE LOCATION

SOURCE: MODIFIED FROM STATE OF ILLINOIS NATURAL RESOURCES GEOSPATIAL DATA, BLUE ISLAND, ILLINOIS, QUADRANGLE, 1993

0 175 350

SCALE IN FEET

N

INGERSOLL PRODUCTS
1000 W. 120th STREET
CHICAGO, ILLINOIS
TDD NO.: S05-0508-018

FIGURE 2
SAMPLE LOCATION MAP

Tetra Tech EM Inc.

2.3 PREVIOUS SITE INVESTIGATIONS

This section summarizes a Phase I ESA performed by Roy F. Weston, Inc. (Weston); a Phase II ESA performed by Volatile Sampling Company (VSC); and a Phase I ESA performed by Harza Consulting Engineers and Scientists (Harza) at the Ingersoll site.

2.3.1 Weston Phase I ESA

In July 1992, Weston completed a Phase I ESA report for the Ingersoll site. The purpose of the ESA report was to identify possible areas of environmental concern based on past and present site uses. The Phase I ESA identifies the following possible areas of concern:

- Contaminated soils from oils stored and used during manufacturing processes
- Petroleum contamination in areas where underground storage tanks (UST) were located
- Potential polychlorinated biphenyl (PCB) contamination in areas where older transformers were located
- Potential soil contamination from foundry sands where steel was manufactured

Weston's report recommends the collection of soil samples for benzene, toluene, ethylbenzene, and xylene (BTEX), and PCBs; a geophysical survey in order to identify additional USTs; a Phase I asbestos survey to identify asbestos present at the site; and the collection of foundry soils for phenol and metals analysis.

2.3.2 Phase II ESA

In August through October 1994, VSC was contracted by Ingersoll to conduct a Phase II ESA to further evaluate areas of concern (AOC) identified in Weston's Phase I ESA report. The Phase II ESA was conducted in three stages, the first to conduct headspace screening of site soils, the second to install eight groundwater monitoring wells, and the third to advance additional monitoring wells and soil borings to investigate areas of higher contaminant concentrations.

The first stage of the Phase II ESA was to conduct a BTEX headspace soil screening at multiple depths at 30 different soil sampling locations, designated SS-1 through SS-30. In addition to the headspace readings, 10 soil samples were collected from sampling locations SS-1 through SS-10 for solvent, PCB, petroleum, volatile organic compound (VOC) and semivolatile organic compound (SVOC), and heavy metals analysis. Soil samples for all analytes except PCB analysis were collected from shallow depths, and samples collected for PCB analysis were collected from approximately 1 foot below the saturated soil zone. According to VSC, the stage one soil analysis and headspace readings indicated no significant VOC, SVOC, PCB, or metals contamination.

During stage two of the Phase II ESA, eight permanent groundwater monitoring wells, designated MW-1 to MW-8, were installed to collect water elevation and groundwater flow data.

During stage three of the Phase II ESA, five more groundwater monitoring wells, MW-9 through MW-13, were installed and five more soil borings were advanced at sampling locations SS-11 through SS-15. Groundwater samples were collected from MW-1, MW-6, and MW-9 through MW-13, and analyzed for VOCs, SVOCs, polynuclear aromatic hydrocarbons (PAH), and metals. Composite soil samples were collected from 0 to 4 feet below ground surface (bgs) from the borings drilled to install MW-9 through MW-13 and from SS-11 through SS-15. These samples were analyzed for metals. Groundwater and soil samples were not analyzed for PCBs based on stage one sampling results.

According to VSC's Phase II ESA report, soil analytical results during the stage three activities indicated that only lead was present (0.150 milligrams per kilogram [mg/kg]) at concentrations exceeding Illinois Pollution Control Board (IPCB) Class II criteria (0.100 mg/kg for metals in soil). Groundwater samples collected by VSC contained no SVOCs or PAHs, and all metals analysis results were either below detection limits or below IPCB regulatory standards. One VOC, 1,1-dichloroethane (DCA), was detected in MW-1 at a concentration of 0.150 milligrams per liter (mg/L), which exceeds the IPCB Class II groundwater standard of 0.025 mg/L. VSC recommended no further action at the site.

2.3.3 Harza Phase I ESA

In May 1996, Harza submitted a multi-site Phase I ESA report for the Ingersoll site to the Chicago Department of Environment (CDOE). Harza's report includes a Phase I ESA for the abandoned railroad bed on the northern portion of the site. The objective of the Phase I ESA was to evaluate the potential to

redevelop brownfields in the West Pullman Industrial Redevelopment Area (WIRA), where the Ingersoll site is located. The report was intended to identify two types of information; (1) planning data to identify areas of interest for brownfields redevelopment and (2) site-specific data intended to identify areas of potential environmental concern.

2.3.4 Tetra Tech Limited Phase II ESA

On January 26 and 27, 2004, Tetra Tech performed a limited Phase II ESA at the Ingersoll site. Tetra Tech advanced a total of nine Geoprobe soil borings at the site and collected 18 soil samples, 2 groundwater samples, and 13 wipe samples. All soil borings were advanced to 10 feet bgs except SB-07, which was advanced to 11 feet bgs. Soil samples were collected from 0 to 3 feet bgs and from 3 to 10 feet bgs for laboratory analysis. Soil borings SB-02 and SB-09 were converted into temporary groundwater monitoring wells. The wipe samples were collected from the floor of 13 separate transformer room locations.

The results from the limited Phase II ESA indicated that SVOCs, metals, and PCBs have impacted soil at the site. Furthermore, wipe sample results indicated that PCB-containing oils, some at levels exceeding Toxic Substance Control Act (TSCA)-regulated levels, have impacted the concrete at 6 of the 13 transformer room locations.

3.0 SITE ASSESSMENT ACTIVITIES

Site assessment activities performed by START included a site reconnaissance and sampling activities. Photographs documenting current site conditions and site assessment activities are presented in Appendix A.

3.1 SITE RECONNAISSANCE

At approximately 11:00 a.m. on August 31, 2005, U.S. EPA On-Scene Coordinator (OSC) Thomas Cook, CDOE representative Terry Sheehan, and START members Dave Franc and Mary Wojciechowski met at the Ingersoll site to conduct a site reconnaissance and sampling activities.

The former administration areas located in the southeast portion of the site (referred to on Figure 2 as Buildings 111, 112, 113, and 114) had been completely destroyed by fire; however, in these building areas, floor tile remained in the open in an extremely damaged and friable condition. Much of the floor tile observed in this area was present in layers, with older tile underlying newer floor tile.

Potential asbestos-containing materials (ACM), transformers, and fluorescent light ballasts are discussed below.

3.1.1 Potential ACM

Based on observations made during the site reconnaissance, a significant amount of potential ACM is present at the site. All of the potential ACM (piping insulation and floor tile) was extremely deteriorated, damaged, and friable. Much of the potential ACM had fallen to the floors of the structures.

Manholes were observed inside the structures that contained piping wrapped in potential ACM. Potential ACM bricks were observed in one oven in Building 515 and five ovens in Building 924.

3.1.2 Transformers

START inspected the former transformer areas and noted that all of the transformers had been removed. Significant oil staining was observed on the floor at each former transformer location. Oil at several of

these transformer locations had been previously tested and found to contain up to 300,000 parts per million of PCBs.

Manholes observed inside and outside the buildings contained oil and sludge. Building 920 is a small garage with a large overhead door and contained a wooden floor that was significantly damaged, and a large amount of oil was visible beneath the floor. Manholes on the outside of Building 920 also contain oil.

Pits measuring about 9 feet by 9 feet, with significant oil staining and oily sludge, were observed in Buildings 912, 924, 1012, and 1014.

3.1.3 Fluorescent Light Ballasts

Fluorescent lights were observed inside each building. If manufactured before 1979, the capacitors in the fluorescent light ballasts could contain small quantities of PCBs.

3.2 SAMPLING ACTIVITIES

START conducted sampling activities at the site on August 31, 2005, as part of the removal site assessment. To evaluate whether the Ingersoll site poses a threat to human health or the environment, START collected six wipe samples on August 31, 2005, from the floors of transformer rooms, five bulk asbestos samples from piping insulation and floor tile, and three liquid waste samples from waste oil pits. Sampling locations are shown in Figure 2. START collected the samples under the direction of U.S. EPA OSC Cook, who determined the exact locations and media to be sampled. The determination was based on previous knowledge of the site and observations made during the site reconnaissance. All sampling was performed in Level D personal protective equipment (PPE). The samples were submitted to Suburban Laboratories, Inc. (Suburban), in Hillside, Illinois, for analysis for asbestos, PCBs, and total Resource Conservation and Recovery Act (RCRA) metals.

Wipe samples were collected from the floors of six former transformer rooms 1, 6, 9, 10, 12, and 13 using 2 by 2-inch gauze pads soaked in hexane. After the excess hexane was removed, the pads were used to wipe the floor from inside a 100-square-centimeter (cm^2) area, folded over, and then placed in 4-ounce jars for PCB analysis.

Suspected ACM samples AB-01 and AB-02 were collected from exposed flooring tile located in the former administration area. Suspected ACM samples AB-03, AB-04, and AB-05 were collected from pieces of piping insulation that had fallen onto the floor in Buildings 1012 and 1014. All samples were moistened with distilled water and placed in sample bags for asbestos analysis.

Liquid waste sample WL-01 was collected from liquid observed beneath the wooden floor of Building 920. Liquid waste sample WL-02 was collected from a pit located in Building 912. Liquid waste sample WL-03 was collected from a pit located in Building 924. All wipe samples were analyzed for PCBs and RCRA metals.

4.0 ANALYTICAL RESULTS

START obtained laboratory analytical results for six wipe samples, five bulk asbestos samples, and three liquid waste samples collected from the Ingersoll site. The samples were submitted under analytical TDD No. S05-0508-019 to Suburban for analysis for asbestos, PCBs, and total RCRA metals. Analytical parameters were chosen based on the criteria for identification of hazardous waste set forth in 40 CFR Part 261. Tables 1, 2, and 3 summarize the analytical results for the six wipe samples, five bulk asbestos samples, and two liquid waste samples, respectively. Appendix B presents the data validation report and validated analytical results for the samples. Analytical parameters and significant analytical results are discussed below.

Wipe samples WP-01, WP-09, WP-10, and WP-13 contained PCBs at concentrations exceeding the TSCA remediation objective of 100 micrograms per 100 square centimeters ($\mu g/100\ cm^2$) for restricted areas. Wipe samples WP-06 and WP-12 also contained PCBs at concentrations exceeding the TSCA remediation objective of 10 $\mu g/100\ cm^2$ for unrestricted areas. The highest estimated concentration detected was 457,000 $\mu g/100\ cm^2$ of Aroclor 1254 in sample WP-01.

Suspected ACM samples AB-01 and AB-02 were divided into two separate samples each (mastic and floor tile) by the laboratory prior to analysis. These floor tile samples did not contain any detectable asbestos fibers. The mastic samples both contained approximately 2 percent asbestos fibers (chrysotile asbestos). Suspected ACM samples AB-03, AB-04, and AB-05 each contained detectable asbestos fibers (up to 3 percent chrysotile and 40 percent amosite asbestos).

Liquid waste samples WL-01, WL-02, and WL-03 all contained low concentrations of metals and did not contain any detectable PCB concentrations; however, the matrix spike and matrix spike duplicate (MS/MSD) sample collected yielded zero recovery. The laboratory analytical results therefore do not confirm the presence of PCBs, and all nondetected results should be considered estimated.

TABLE 1

WIPE SAMPLE ANALYTICAL RESULTS

INGERSOLL SITE

Sample ID	**WP-01**	**WP-06**	**WP-09**	**WP-10**	**WP-12**	**WP-13**
Sampling Date	**08/31/05**	**08/31/05**	**08/31/05**	**08/31/05**	**08/31/05**	**08/31/05**
Polychlorinated biphenyls (µg/100 cm²)						
Aroclor 1016	ND	ND	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND	ND	ND
Aroclor 1254	**457,000**	ND	ND	ND	ND	ND
Aroclor 1260	ND	**15.3**	**87,600**	**31,100 J**	**77.1 J**	**87,900 J**

Notes:

Bold values exceed the TSCA remediation objective of 10 µg/100 cm² for unrestricted areas.
Highlighted values exceed the TSCA remediation objective of 100 µg/100 cm² for restricted areas.

µg/100 cm²	=	Microgram per 100 square centimeters
ID	=	Identification
J	=	Sample result estimated
ND	=	Not detected
TSCA	=	Toxic Substances Control Act

TABLE 2

BULK ASBESTOS SAMPLE ANALYTICAL RESULTS

INGERSOLL SITE

Sample ID	Sample Description	Asbestos Type	Percent Asbestos	Other Fibers	Percent Fibers
AB-01	Black Mastic	Chrysotile	**2**	Cellulose	2
AB-01	Floor Tile	ND	ND	Cellulose	<1
AB-02	Black Mastic	Chrysotile	**2**	Cellulose	<1
AB-02	Floor Tile	ND	ND	Cellulose	<1
AB-03	Pipe Insulation	Chrysotile	**2**	Cellulose	<1
		Amosite	**35**		
AB-04	Pipe Insulation	Chrysotile	**2**	Cellulose	<1
		Amosite	**40**		
AB-05	Pipe Insulation	Chrysotile	**3**	Cellulose	2
		Amosite	**40**		

Notes:

Bold values indicate that the asbestos identified is friable as defined in 40 CFR Part 763, Section 1.

CFR = *Code of Federal Regulations*
ID = Identification
ND = Not detected

TABLE 3

LIQUID WASTE SAMPLE ANALYTICAL RESULTS

INGERSOLL SITE

Sample ID	WL-01	WL-02	WL-03
Sampling Date	**08/31/05**	**08/31/05**	**08/31/05**
Total Resource Conservation and Recovery Act Metals (mg/kg)			
Aluminum	4.44	24.4	ND
Barium	ND	2.41	ND
Cadmium	ND	ND	ND
Calcium	46	264	ND
Chromium	0.099 J	1.17	0.15 J
Copper	ND	10.9	48.2
Iron	61.7	857	26.6
Lead	1.47	66.3	12.7
Magnesium	36.5	71.7	ND
Manganese	0.685	7.36	ND
Nickel	ND	0.8 J	0.3 J
Potassium	12 J	4.3 J	3.2 J
Selenium	ND	ND	ND
Silver	ND	ND	0.058 J
Thallium	ND	ND	ND
Vanadium	0.53 J	0.16 J	ND
Zinc	1.72	82.7	12.4

Notes:

B = Analyte detected in associated method blank
ID = Identification
J = Sample result is estimated
mg/kg = Milligram per kilogram
ND = Not detected

5.0 POTENTIAL SITE-RELATED THREATS

Paragraph (b)(2) of 40 CFR Section 300.415 lists factors to be considered when determining the appropriateness of a potential removal action at a site. Factors applicable to the Ingersoll site are summarized below.

Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances or pollutants or contaminants

The Ingersoll site is fenced; however, access to the site buildings is virtually unrestricted through gaps in the fencing and openings in the buildings' outer walls, allowing access to the interiors of all buildings and contact with numerous pits filled with oil, ACM piping insulation and mastic, and former transformer rooms with surfaces containing very high PCB concentrations. Evidence of trespassing was observed throughout the site buildings. Gate locks in the fence have been removed, allowing access to the site. Brick scavengers have removed bricks throughout the site. A fire at the site in the summer of 2004 destroyed portions of Buildings 111, 112, 113, and 114, exposing friable asbestos to the atmosphere. In addition, piping insulation was identified outside of the fence (see Photograph No. 28 in Appendix A).

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that pose a threat of release

Numerous pits containing suspected PCB-containing oil are located at the Ingersoll site.

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released

The existing buildings at the site have numerous large holes in the roof. Pipe insulation containing asbestos fibers has fallen onto the floor as a result of the exposed conditions. Floor tile with asbestos-containing mastic material is exposed to the air as a result of fire damage.

Threat of fire or explosion

The Ingersoll site has already been subjected to fire damage. Because the site access is still unrestricted, the possibility of another fire at the site still exists.

The availability of other appropriate federal or state response mechanisms to respond to the release

In August 2005, CDOE requested U.S. EPA's assistance with the Ingersoll site.

6.0 SUMMARY

The Ingersoll site is located in an industrial area at 1000 West 120th Street in Chicago, Cook County, Illinois. The site is bordered by 119th Street to the north, South Morgan Street to the east, 120th Street to the south, and vacant industrial properties to the west. The geographic coordinates for the site are latitude 41°40'35" north and longitude 87°38'49" west. The site property measures approximately 12 acres and includes more than a dozen interconnected, vacant buildings. A fire in the summer of 2004 destroyed a portion of the former administration areas (referred to in Figure 2 as Buildings 111, 112, 113, and 114) located in the southeast portion of the site. A chain-link fence surrounding the site contains large gaps.

OSC Cook, Mr. Sheehan of CDOE, and START conducted a site reconnaissance on August 31, 2005. The former administration areas referred to on Figure 2 as Buildings 111, 112, 113, and 114 had been destroyed by a fire in the summer of 2004; however, in these building areas, floor tile remained in the open in an extremely damaged and friable condition. Much of the floor tile observed in this area was present in layers, with older tile underlying newer floor tile.

Based on observations made during the site reconnaissance, a significant amount of potential ACM is present at the site. All of the potential ACM (piping insulation and floor tile) was extremely deteriorated, damaged, and friable. Much of the potential ACM had fallen to the floors of the structures.

Manholes were observed inside the structures that contained piping wrapped in potential ACM. Potential ACM bricks were observed in one oven in Building 515 and five ovens in Building 924.

START also inspected the former transformer area and noted that all of the transformers had been removed. Significant oil staining was observed on the floor at each former transformer location. Oil at several of these transformer locations has been previously tested and found to contain up to 300,000 parts per million PCBs.

Manholes observed inside and outside the buildings contained oil and sludge. Building 920 is a small garage with a large overhead door and contained a wooden floor that was significantly damaged, and a

large amount of oil was visible beneath the floor. Manholes on the outside of Building 920 also contain oil.

Pits measuring about 9 feet by 9 feet, with significant oil staining and oily sludge, were observed in Buildings 912, 924, 1012, and 1014.

Analytical results for samples collected during the site assessment indicated that high concentrations of PCBs (exceeding TSCA regulations) are present on the concrete floors of several former transformer rooms. In addition, asbestos fibers are present at greater than 1 percent in exposed floor tile mastic and piping insulation.

Based on the results of the site assessment, the Ingersoll site poses a threat of release of hazardous substances both on the site property and to off-site properties that would result in exposure of human populations, animals, and other elements of the food chain. The site therefore meets the criteria for a removal action outlined in 40 CFR Section 300.415(b)(2). Appendix C contains a removal cost estimate for the site.

APPENDIX A

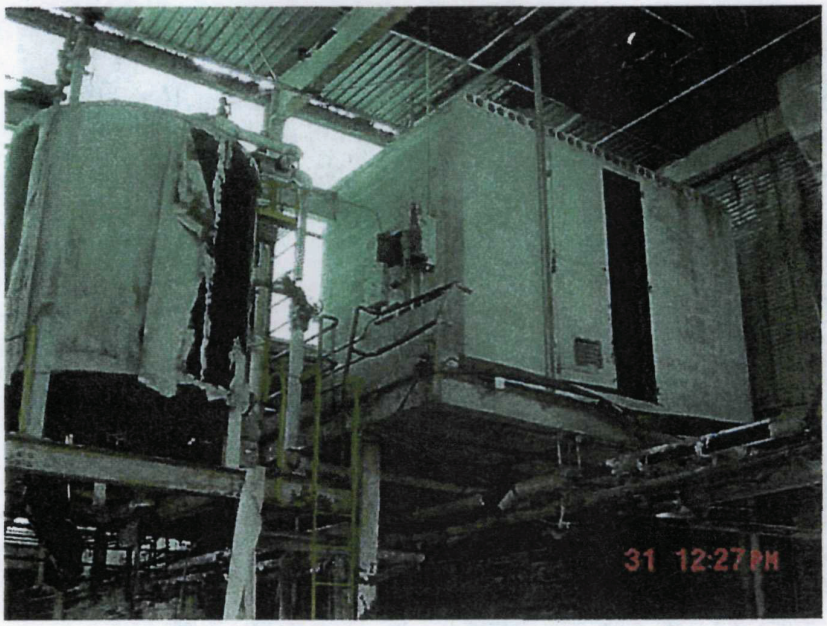
PHOTOGRAPHIC LOG

(14 Pages)

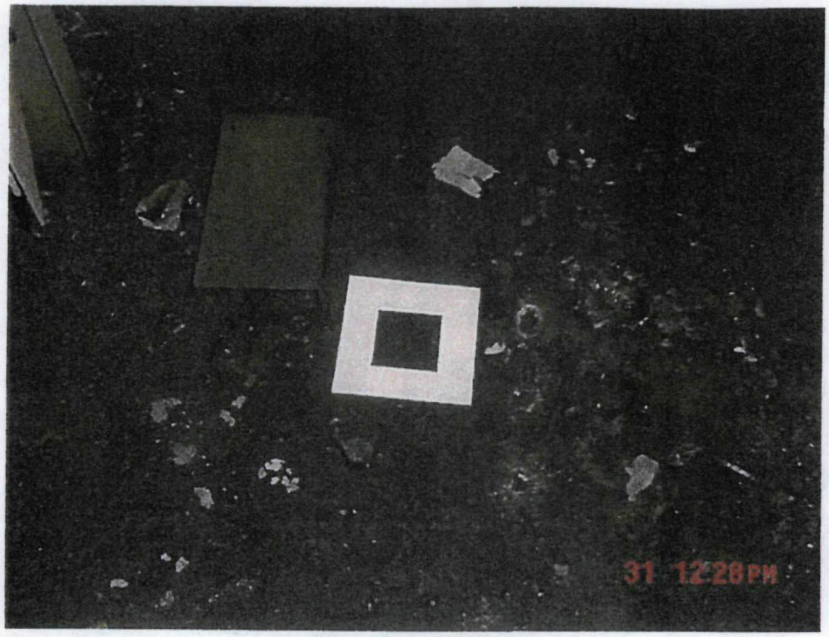
Photograph No.: 1 **Orientation:** East
TDD No.: S05-0508-018 **Date:** August 31, 2005
Location: Ingersoll Products (Ingersoll) site
Subject: Former electrical transformer room where wipe sample WP-13 was collected

Photograph No.: 2 **Orientation:** South
TDD No.: S05-0508-018 **Date:** August 31, 2005
Location: Ingersoll site
Subject: Unstable and unsecured building conditions as a result of fire damage

Photograph No.: 3
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Wipe sampling location WP-13
Orientation: Not applicable (NA)
Date: August 31, 2005



Photograph No.: 4
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Former electrical transformer room where wipe sample WP-12 was collected; note aboveground storage tank with possible asbestos-containing material (ACM) insulation
Orientation: East
Date: August 31, 2005

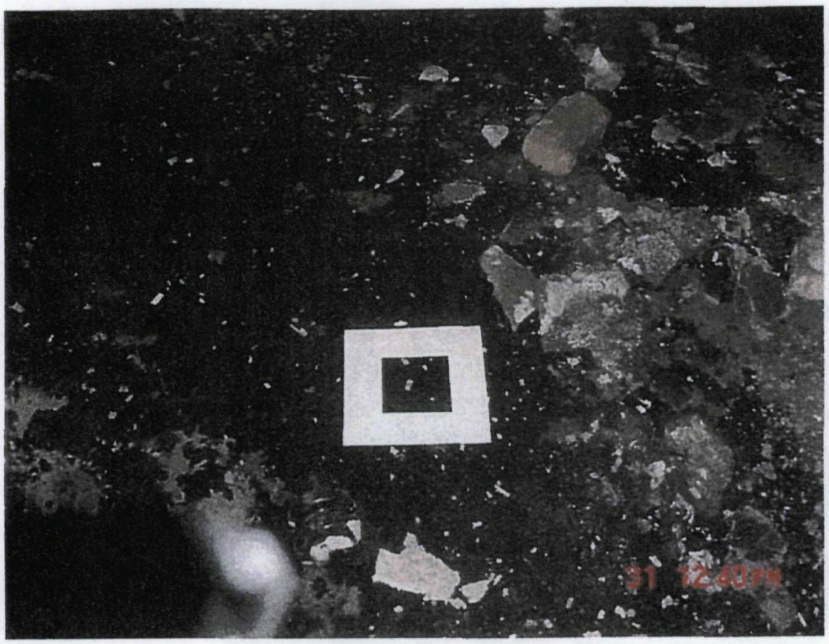


Photograph No.: 5
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Wipe sampling location WP-12

Orientation: NA
Date: August 31, 2005

Photograph No.: 6
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Former electrical transformer room where wipe sample WP-11 was collected

Orientation: East
Date: August 31, 2005



Photograph No.: 7 **Orientation:** NA
TDD No.: S05-0508-018 **Date:** August 31, 2005
Location: Ingersoll site
Subject: Former electrical transformer room where wipe sample WP-11 was collected

Photograph No.: 8 **Orientation:** South
TDD No.: S05-0508-018 **Date:** August 31, 2005
Location: Ingersoll site
Subject: Former electrical transformer room where wipe sample WP-10 was collected

Photograph No.: 9
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Unstable roof conditions
Orientation: South
Date: August 31, 2005

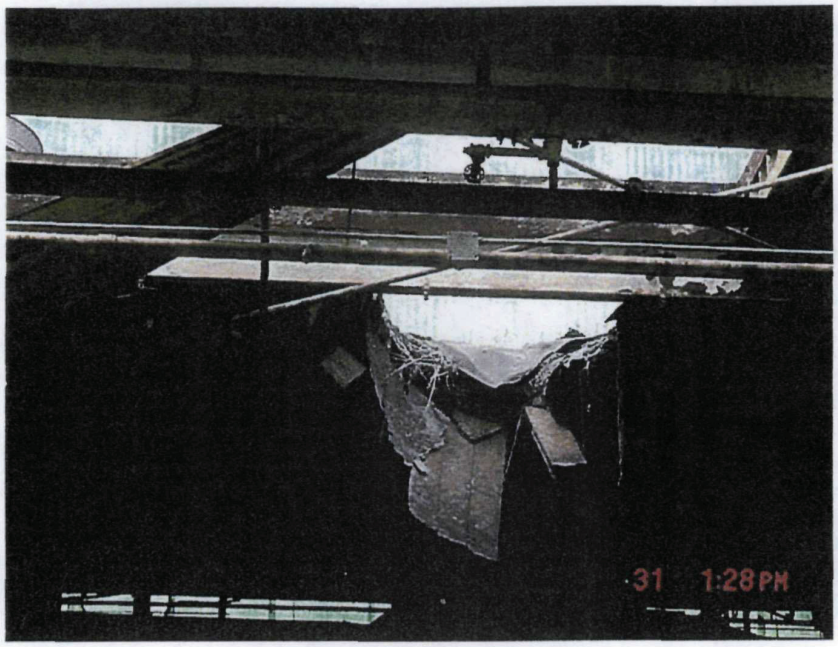
Photograph No.: 10
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Former electrical transformer room where wipe sample WP-09 was collected
Orientation: West
Date: August 31, 2005

Photograph No.: 11 **Orientation:** East
TDD No.: S05-0508-018 **Date:** August 31, 2005
Location: Ingersoll site
Subject: Former electrical transformer room where wipe sample WP-06 was collected

Photograph No.: 12 **Orientation:** NA
TDD No.: S05-0508-018 **Date:** August 31, 2005
Location: Ingersoll site
Subject: Asbestos sampling location AB-01

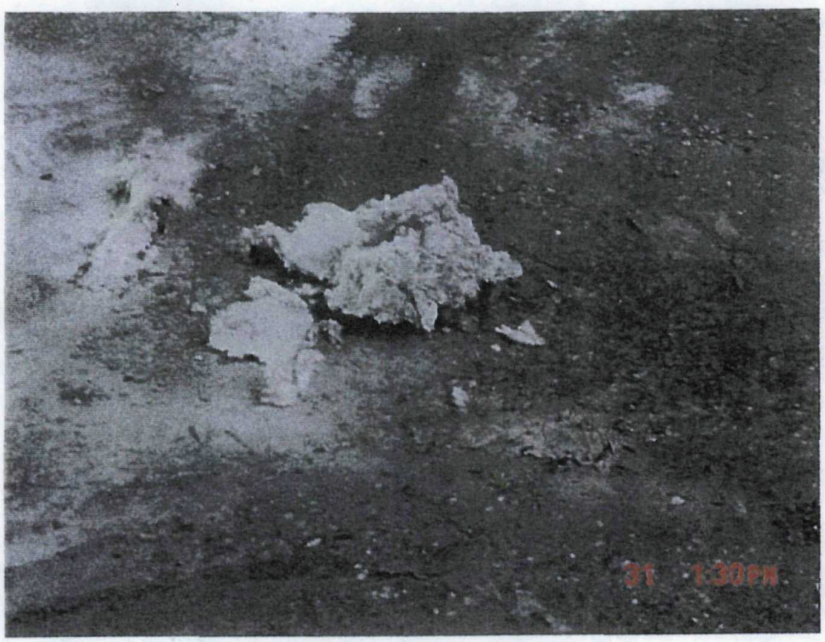
Photograph No.: 13
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Asbestos sampling location AB-02
Orientation: NA
Date: August 31, 2005

Photograph No.: 14
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Asbestos sampling location AB-03
Orientation: NA
Date: August 31, 2005



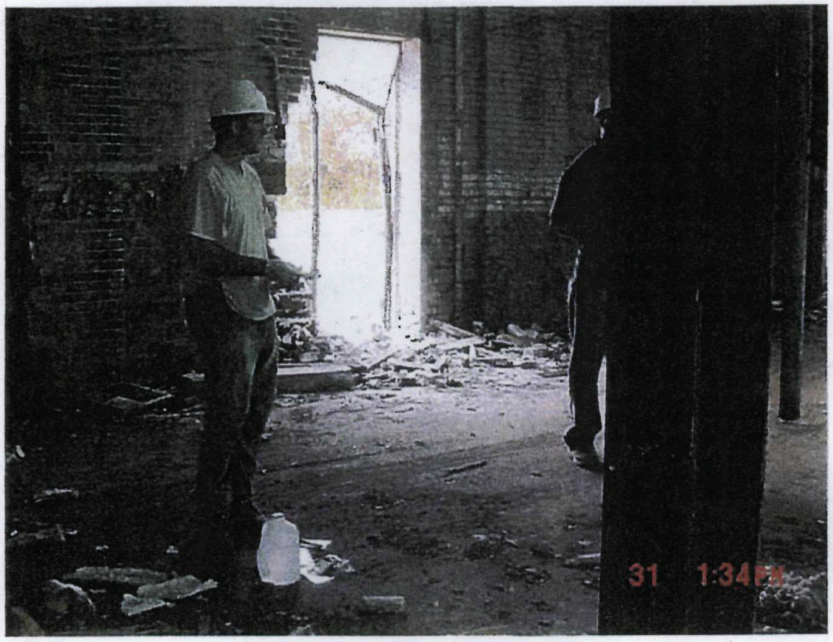
Photograph No.: 15
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Unstable roof condition
Orientation: South
Date: August 31, 2005

Photograph No.: 16
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Unstable roof condition
Orientation: South
Date: August 31, 2005



Photograph No.: 17
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Asbestos sampling location AB-04
Orientation: NA
Date: August 31, 2005

Photograph No.: 18
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Asbestos sampling location AB-05
Orientation: NA
Date: August 31, 2005

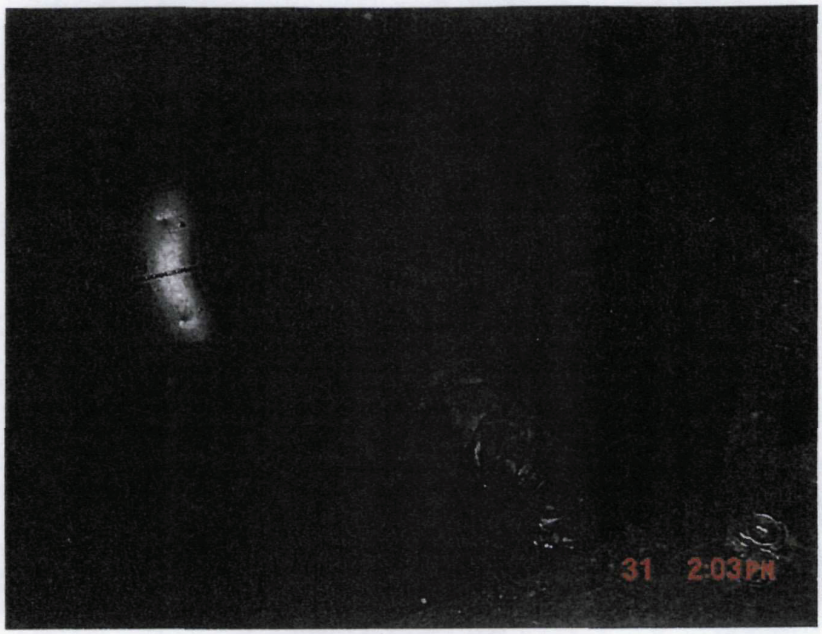


Photograph No.: 19
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Opening in building wall
Orientation: Southwest
Date: August 31, 2005

Photograph No.: 20
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Unstable surface above liquid waste sampling location WL-01
Orientation: North
Date: August 31, 2005

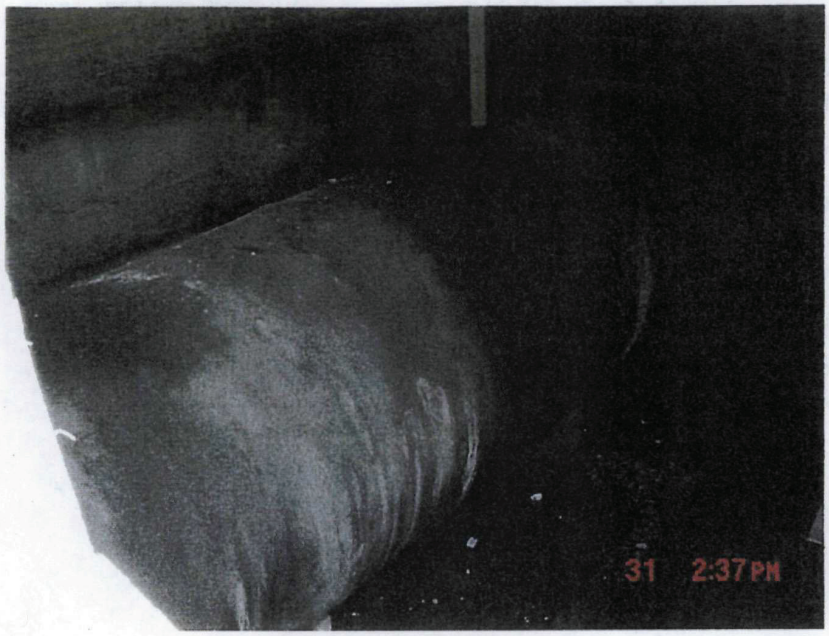
Photograph No.: 21
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Liquid waste sample WL-01
Orientation: NA
Date: August 31, 2005

Photograph No.: 22
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Open pit area where liquid waste sample WL-02 was collected
Orientation: East
Date: August 31, 2005



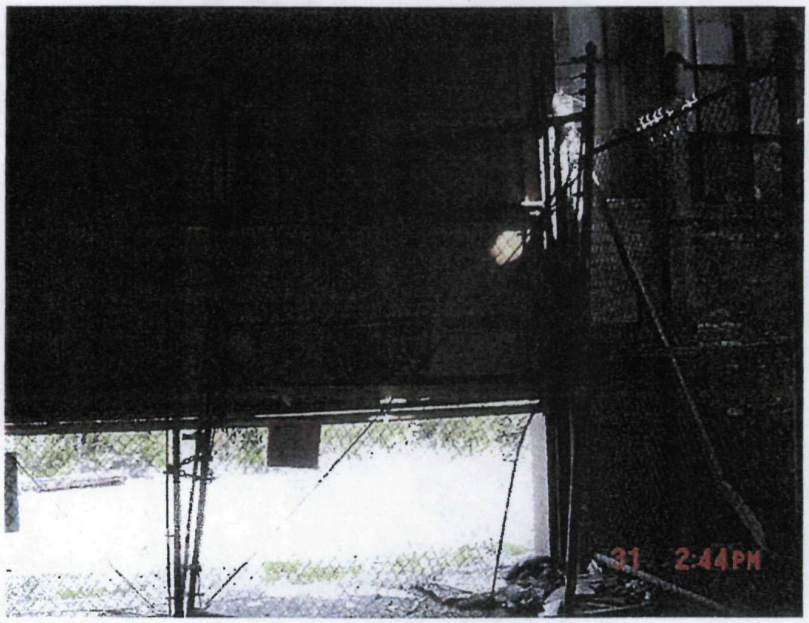
Photograph No.: 23
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Deceased dog found in waste pit
Orientation: NA
Date: August 31, 2005

Photograph No.: 24
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Opening in gate to site
Orientation: North
Date: August 31, 2005



Photograph No.: 25
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Tank with unknown contents
Orientation: NA
Date: August 31, 2005

Photograph No.: 26
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Possible underground storage tank location
Orientation: East
Date: August 31, 2005



Photograph No.: 27
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Opening in building

Orientation: East
Date: August 31, 2005

Photograph No.: 28
TDD No.: S05-0508-018
Location: Ingersoll site
Subject: Piping insulation outside of property fence

Orientation: South
Date: August 31, 2005

APPENDIX B

DATA VALIDATION REPORT

(Eight Pages)

MEMORANDUM

Date: September 29, 2005

To: Dave Franc, Project Manager, Tetra Tech EM Inc. (Tetra Tech)
Superfund Technical Assessment and Response Team (START) for Region 5

From: Harry Ellis, Chemist, Tetra Tech START for Region 5

Subject: Data Evaluation for
Ingersoll Products Company Site
Chicago, Illinois
Analytical Technical Direction Document (TDD) No. S05-0508-019
Project TDD No. S05-0508-018

Laboratory: Suburban Laboratories, Inc. (Suburban), Hillside, Illinois
Work Order No. 05090026
Polychlorinated Biphenyl (PCB), Metals, and Asbestos Analyses of Six Wipe Samples, Eight Waste Samples, and Two Field Duplicates

1.0 INTRODUCTION

The Tetra Tech START for Region 5 evaluated PCB, metals, and asbestos analytical data for six wipe samples, eight waste samples, and quality control (QC) samples (two field duplicates) collected during emergency response activities conducted on August 31, 2005, at the Ingersoll Products Company site in Chicago, Illinois. The samples were analyzed under the above-referenced work order by Suburban using U.S. Environmental Protection Agency (U.S. EPA) SW-846 Methods 8082 for PCB analysis and 6010B for metals analysis. The asbestos analyses were performed by a subcontractor, United Analytical Services, Inc., of Downers Grove, Illinois, using U.S. EPA Method EPA/600/R-93/116/July 1993. None of the samples were analyzed for all parameters. The wipe samples, including one field duplicate sample, were analyzed for PCBs only. Three liquid (oil) waste samples and one field duplicate sample were analyzed for PCBs and metals. The five solid waste samples were analyzed for asbestos only.

The data were evaluated in general accordance with U.S. EPA's "Contract Laboratory Program National Functional Guidelines for Organic Data Review" dated October 1999 and "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" dated October 2004. Organic data validation consisted of a review of the following quality control (QC) parameters: holding times, instrument performance checks, initial and continuing calibrations, blank results, surrogate recovery results, matrix spike and matrix spike duplicate (MS/MSD) results, laboratory control sample (LCS) results, internal standard (IS) response, and target compound identification and quantitation. Inorganic data validation consisted of a review of the following QC parameters, with modifications as necessary for the asbestos analyses: holding times, initial and continuing calibrations, blank results, inductively coupled plasma (ICP) interference check sample results, LCS results, duplicate sample results, MS/MSD results, and sample result quantitation.

Section 2.0 discusses the results of the organic data evaluation, Section 3.0 discusses the results of the inorganic data evaluation (including evaluation of all metals and asbestos data), and Section 4.0 presents an overall assessment of the data. The attachment to this memorandum contains Suburban's summary of analytical results as well as START's handwritten data qualifications where warranted.

2.0 ORGANIC DATA EVALUATION RESULTS

The results of START's organic data evaluation are summarized below in terms of the QC parameters reviewed. The data qualifiers listed below were applied to the sample analytical results where warranted (see the attachment).

- J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.
- UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

2.1 HOLDING TIMES

The samples were received at the laboratory at a temperature of 15 °C, well above the QC limits of 4 ± 2 °C; however, the analytes (PCBs) are very stable, and the receipt temperature was below the ambient site temperature, so no qualifications are warranted. Samples were analyzed within the holding time limits of 14 days to extraction and 40 days from extraction to analysis for PCBs.

2.2 INSTRUMENT PERFORMANCE CHECKS

The instrument resolution was adequate for the PCB analysis.

2.3 INITIAL AND CONTINUING CALIBRATIONS

All initial calibration and continuing calibration results were within QC limits.

2.4 BLANK RESULTS

During the PCB analyses, method blanks were run with each analytical batch in the proper sequence. Although a few individual peaks were detected, none of the blanks contained identifiable PCB patterns, so no qualifications are warranted.

2.5 SURROGATE RECOVERY RESULTS

For the PCB analyses, the surrogate recoveries were within the laboratory-established QC limits for the oil (liquid waste) samples. All wipe samples except sample Wipe-6 were diluted so much that the surrogate recovery could not be determined. No qualifications are warranted for these data gaps.

2.6 MS/MSD RESULTS

The MS/MSD analyses were performed with Aroclor 1248 spikes of samples Wipe-10 and WL-3. The spike concentrations were approximately 100 times lower than the Aroclor 1254 concentration in sample Wipe-10, making it impossible to determine spike recoveries. No qualifications are warranted for this data gap; however, the relative percent difference (RPD) between the apparent MS and MSD concentrations was 101 percent, well above the QC limit. This elevated RPD may have resulted from interference from differing amounts of Aroclor 1254 in the wipe samples used for the MS/MSD analyses. The Aroclor 1254 result for sample Wipe-10 was therefore flagged "J" to indicate uncertainty because of heterogeneity between the individual wipe samples. In addition, the RPD between the concentrations of Aroclor 1254 in the field duplicate pair (samples Wipe -10 and Wipe-10D) was 85 percent; therefore, the field duplicate result was flagged "J" to indicate that it is also considered estimated because of sample heterogeneity.

Sample WL-3 did not contain detectable concentrations of PCBs, but its chromatogram contained many peaks throughout the retention time range of standard PCB mixtures. Although the Aroclor 1248 spike concentration was about 10 times the reporting limit, both the MS and MSD samples yielded zero recovery for the spiked Aroclor 1248. It is possible that some PCBs are present in the sample but are masked by the matrix interference that affected the spikes. Because of this matrix interference, all PCB results for sample WL-3 were flagged "UJ" to indicate that the sample reporting limits are considered estimated and may be biased low (that is, PCBs may be present at concentrations at or above the reporting limits listed in the attachment). The other liquid waste samples had similar chromatograms, so their PCB results were also flagged "UJ" as estimated, possibly biased low.

2.7 LCS RESULTS

LCSs were analyzed with the samples during each analytical run. All LCS results were within the laboratory-specified QC limits.

2.8 IS RESPONSE

Suburban uses an IS, 1-bromo-2-nitrobenzene, for its PCB analyses. IS response includes area count and retention time. IS area counts were within the laboratory-specified QC limits of 50 to 150 percent of the preceding continuing calibration sample values for all reported PCB analytical results. The retention times for the ISs were within the QC limit of ± 30 seconds.

2.9 TARGET COMPOUND IDENTIFICATION AND QUANTITATION

Target mixture identification and quantitation were spot-checked and found to be correct. The chromatographic pattern for sample Wipe-13 was a poor match to the Aroclor 1260 standard, as indicated by the more than three-fold variation in the quantitation from the five peaks used to determine that mixture's identity. The Aroclor 1260 result for sample Wipe-13 was therefore flagged "J" to indicate that it is estimated because of apparent degradation. The waste samples were apportioned by weight, so their results are presented on a "per kilogram" basis. The wipe samples were analyzed at various dilutions to bring the results within calibration range, so no further qualifications are warranted.

3.0 INORGANIC DATA EVALUATION RESULTS

The results of START's inorganic data evaluation are summarized below in terms of the QC parameters reviewed. The inorganic data validation included evaluation of metals and asbestos analytical data. The data qualifiers listed below were applied to the sample analytical results where warranted (see the attachment).

- J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

- U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

3.1 HOLDING TIMES

The metals analyses were performed within the holding time limits of 6 months for metals. The asbestos analytical method does not stipulate a holding time, and the analyses were performed soon after sample receipt, so no qualifications are warranted.

3.2 INITIAL AND CONTINUING CALIBRATIONS

Initial and continuing calibrations were performed as required by the metals analytical methods, and all results were within their respective QC limits.

3.3 BLANK RESULTS

Trace concentrations of most metals were detected in the method and calibration blanks. Metals concentrations that were less than 10 times the concentrations in the method and calibration blanks run with the investigative samples were flagged "U" to indicate that they may be laboratory artifacts. This issue affected between two and six metals per sample. Blank samples are not applicable to the asbestos analysis.

3.4 ICP INTERFERENCE CHECK SAMPLE RESULTS

ICP interference check sample analyses were performed as required and yielded results within QC limits.

3.5 LCS RESULTS

LCS results were within QC limits for the metals analysis.

3.6 DUPLICATE SAMPLE RESULTS

No laboratory duplicate sample results were provided. However, field duplicate sample results and the MS/MSD sample results were all within QC limits.

3.7 MS/MSD RESULTS

MS/MSD analyses were performed on sample WL-3, and all results were within QC limits.

3.8 SAMPLE RESULT QUANTITATION

Analytical sample result quantitation was checked for a few results for the metals analysis and found to be correct. Some results were below the laboratory's quantitation limit, so Suburban flagged these results "J" to indicate that they are considered estimated.

4.0 OVERALL ASSESSMENT OF DATA

Overall, the sample analytical data generated by Suburban are acceptable for use as qualified.

One problem with these analyses was matrix interference for the liquid waste (oil) samples analyzed for PCBs. The possibility exists that one or more of these samples contains PCBs at concentrations exceeding the listed reporting limits, especially for lighter PCB mixtures (such as Aroclors 1016 and 1221), because many large non-PCB peaks were noted in the early portions of the chromatograms. To determine whether PCBs are present, the samples could be analyzed by U.S. EPA Method 1668A, which

ATTACHMENT

SUBURBAN SUMMARY OF SAMPLE ANALYTICAL RESULTS

(11 Sheets)

Suburban Laboratories, Inc.
4140 Litt Drive, Hillside, IL 60162 (708) 544-3260

Laboratory Results

Client ID: Tetra Tech EM Inc. **Report Date:** September 09, 2005
Project Name: Ingersol **Lab Order:** 05090026

Client Sample ID: Wipe-13 **Matrix:** WIPE
Lab ID: 05090026-01A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 11:45 AM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
PCBS			Method: SW8082			Analyst: BE	
Aroclor 1016	ND		5000	ug/wipe	10000	09/09/2005 10:14 AM	17413
Aroclor 1221	ND		5000	ug/wipe	10000	09/09/2005 10:14 AM	17413
Aroclor 1232	ND		5000	ug/wipe	10000	09/09/2005 10:14 AM	17413
Aroclor 1242	ND		5000	ug/wipe	10000	09/09/2005 10:14 AM	17413
Aroclor 1248	ND		5000	ug/wipe	10000	09/09/2005 10:14 AM	17413
Aroclor 1254	ND		5000	ug/wipe	10000	09/09/2005 10:14 AM	17413
Aroclor 1260	87900	J	5000	ug/wipe	10000	09/09/2005 10:14 AM	17413
Surrogate: Tetrachloro-m-xylene	0	S	33.7 - 156	%REC	10000	09/09/2005 10:14 AM	17413

Client Sample ID: Wipe-12 **Matrix:** DRINKING WATER
Lab ID: 05090026-02A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 11:50 AM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
PCBS			Method: SW8082			Analyst: BE	
Aroclor 1016	ND		5.00	ug/wipe	10	09/09/2005 10:32 AM	17413
Aroclor 1221	ND		5.00	ug/wipe	10	09/09/2005 10:32 AM	17413
Aroclor 1232	ND		5.00	ug/wipe	10	09/09/2005 10:32 AM	17413
Aroclor 1242	ND		5.00	ug/wipe	10	09/09/2005 10:32 AM	17413
Aroclor 1248	ND		5.00	ug/wipe	10	09/09/2005 10:32 AM	17413
Aroclor 1254	ND		5.00	ug/wipe	10	09/09/2005 10:32 AM	17413
Aroclor 1260	77.1		5.00	ug/wipe	10	09/09/2005 10:32 AM	17413
Surrogate: Tetrachloro-m-xylene	0	S	33.7 - 156	%REC	10	09/09/2005 10:32 AM	1741[illegible]

HUE
23Sep05

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
c	Analyte not included in SLI scope of accreditation	E	Estimated, analyte detected above quantitation range
G	Refer to case narrative page for specific comments	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)	ND	Not Detected at the SLI Reporting Limit
Q	Internal standard recovery is outside SLI in-house criteria (no method specific requirements exist)	S	Spike Recovery outside accepted recovery limits

BaseReport-MDL-ContFrac2004

Suburban Laboratories, Inc.
4140 Litt Drive, Hillside, IL 60162 (708) 544-3260

Laboratory Results

Client ID: Tetra Tech EM Inc. **Report Date:** September 09, 2005
Project Name: Ingersol **Lab Order:** 05090026

Client Sample ID: Wipe-10 **Matrix:** DRINKING WATER
Lab ID: 05090026-03A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 11:55 AM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
PCBS			Method: SW8082			Analyst: BE	
Aroclor 1016	ND		5000	ug/wipe	10000	09/09/2005 10:51 AM	17413
Aroclor 1221	ND		5000	ug/wipe	10000	09/09/2005 10:51 AM	17413
Aroclor 1232	ND		5000	ug/wipe	10000	09/09/2005 10:51 AM	17413
Aroclor 1242	ND		5000	ug/wipe	10000	09/09/2005 10:51 AM	17413
Aroclor 1248	ND	SR	5000	ug/wipe	10000	09/09/2005 10:51 AM	17413
Aroclor 1254	31100	J	5000	ug/wipe	10000	09/09/2005 10:51 AM	17413
Aroclor 1260	ND		5000	ug/wipe	10000	09/09/2005 10:51 AM	17413
Surrogate: Tetrachloro-m-xylene	0	S	33.7 - 156	%REC	10000	09/09/2005 10:51 AM	17413

Client Sample ID: Wipe-10D **Matrix:** DRINKING WATER
Lab ID: 05090026-04A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 11:55 AM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
PCBS			Method: SW8082			Analyst: BE	
Aroclor 1016	ND		5000	ug/wipe	10000	09/09/2005 11:44 AM	17413
Aroclor 1221	ND		5000	ug/wipe	10000	09/09/2005 11:44 AM	17413
Aroclor 1232	ND		5000	ug/wipe	10000	09/09/2005 11:44 AM	17413
Aroclor 1242	ND		5000	ug/wipe	10000	09/09/2005 11:44 AM	17413
Aroclor 1248	ND		5000	ug/wipe	10000	09/09/2005 11:44 AM	17413
Aroclor 1254	12600	J	5000	ug/wipe	10000	09/09/2005 11:44 AM	17413
Aroclor 1260	ND		5000	ug/wipe	10000	09/09/2005 11:44 AM	17413
Surrogate: Tetrachloro-m-xylene	0	S	33.7 - 156	%REC	10000	09/09/2005 11:44 AM	17413

HVE
23 Sept 05

Qualifiers:

BaseReport-MDL-CoolFrac2004

*	Value exceeds Maximum Contaminant Level
c	Analyte not included in SLI scope of accreditation
G	Refer to case narrative page for specific comments
J	Analyte detected below quantitation limit (QL)
Q	Internal standard recovery is outside SLI in-house criteria (no method specific requirements exist)
B	Analyte detected in the associated Method Blank
E	Estimated, analyte detected above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the SLI Reporting Limit
S	Spike Recovery outside accepted recovery limits

Suburban Laboratories, Inc.
4140 Litt Drive, Hillside, IL 60162 (708) 544-3260

Laboratory Results

Client ID: Tetra Tech EM Inc. **Report Date:** September 09, 2005
Project Name: Ingersol **Lab Order:** 05090026

Client Sample ID: Wipe-9 **Matrix:** DRINKING WATER
Lab ID: 05090026-05A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 12:05 PM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
PCBS			Method: SW8082			Analyst BE	
Aroclor 1016	ND		5000	ug/wipe	10000	09/09/2005 12:02 PM	17413
Aroclor 1221	ND		5000	ug/wipe	10000	09/09/2005 12:02 PM	17413
Aroclor 1232	ND		5000	ug/wipe	10000	09/09/2005 12:02 PM	17413
Aroclor 1242	ND		5000	ug/wipe	10000	09/09/2005 12:02 PM	17413
Aroclor 1248	ND		5000	ug/wipe	10000	09/09/2005 12:02 PM	17413
Aroclor 1254	ND		5000	ug/wipe	10000	09/09/2005 12:02 PM	17413
Aroclor 1260	87600		5000	ug/wipe	10000	09/09/2005 12:02 PM	17413
Surrogate: Tetrachloro-m-xylene	0	S	33.7 - 156	%REC	10000	09/09/2005 12:02 PM	17413

Client Sample ID: Wipe-6 **Matrix:** DRINKING WATER
Lab ID: 05090026-06A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 12:10 PM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
PCBS			Method: SW8082			Analyst: BE	
Aroclor 1016	ND		0.500	ug/wipe	1	09/09/2005 12:20 PM	17413
Aroclor 1221	ND		0.500	ug/wipe	1	09/09/2005 12:20 PM	17413
Aroclor 1232	ND		0.500	ug/wipe	1	09/09/2005 12:20 PM	17413
Aroclor 1242	ND		0.500	ug/wipe	1	09/09/2005 12:20 PM	17413
Aroclor 1248	ND		0.500	ug/wipe	1	09/09/2005 12:20 PM	17413
Aroclor 1254	ND		0.500	ug/wipe	1	09/09/2005 12:20 PM	17413
Aroclor 1260	15.3		0.500	ug/wipe	1	09/09/2005 12:20 PM	17413
Surrogate: Tetrachloro-m-xylene	62.5		33.7 - 156	%REC	1	09/09/2005 12:20 PM	17413

Qualifiers:

BaseReport-MDL-CostFrac2004

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
c	Analyte not included in SLI scope of accreditation	E	Estimated, analyte detected above quantitation range
G	Refer to case narrative page for specific comments	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)	ND	Not Detected at the SLI Reporting Limit
Q	Internal standard recovery is outside SLI in-house criteria (no method specific requirements exist)	S	Spike Recovery outside accepted recovery limits

Suburban Laboratories, Inc.
4140 Litt Drive, Hillside, IL 60162 (708) 544-3260

Laboratory Results

Client ID: Tetra Tech EM Inc. **Report Date:** September 09, 2005
Project Name: Ingersol **Lab Order:** 05090026

Client Sample ID: Wipe-1 **Matrix:** DRINKING WATER
Lab ID: 05090026-07A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 12:15 PM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
PCBS			Method: SW8082			Analyst BE	
Aroclor 1016	ND		5000	ug/wipe	10000	09/09/2005 12:38 PM	17413
Aroclor 1221	ND		5000	ug/wipe	10000	09/09/2005 12:38 PM	17413
Aroclor 1232	ND		5000	ug/wipe	10000	09/09/2005 12:38 PM	17413
Aroclor 1242	ND		5000	ug/wipe	10000	09/09/2005 12:38 PM	17413
Aroclor 1248	ND		5000	ug/wipe	10000	09/09/2005 12:38 PM	17413
Aroclor 1254	457000		5000	ug/wipe	10000	09/09/2005 12:38 PM	17413
Aroclor 1260	ND		5000	ug/wipe	10000	09/09/2005 12:38 PM	17413
Surrogate: Tetrachloro-m-xylene	0	S	33.7 - 156	%REC	10000	09/09/2005 12:38 PM	1741

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
c	Analyte not included in SLI scope of accreditation	E	Estimated, analyte detected above quantitation range
G	Refer to case narrative page for specific comments	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)	ND	Not Detected at the SLI Reporting Limit
Q	Internal standard recovery is outside SLI in-house criteria (no method specific requirements exist)	S	Spike Recovery outside accepted recovery limits

BaseReport-MDL-CostFrac2004

Suburban Laboratories, Inc.
4140 Litt Drive, Hillside, IL 60162 (708) 544-3260

Laboratory Results

Client ID: Tetra Tech EM Inc. **Report Date:** September 09, 2005
Project Name: Ingersol **Lab Order:** 05090026

Client Sample ID: WL-1 **Matrix:** OIL
Lab ID: 05090026-08A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 1:15 PM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
METALS BY ICP			Method: SW6010B			Analyst: RR	
Aluminum	4.44		2.48	mg/Kg	1	09/06/2005 5:01 PM	17372
Antimony	ND		1.49	mg/Kg	1	09/06/2005 5:01 PM	17372
Arsenic	ND		1.14	mg/Kg	1	09/06/2005 5:01 PM	17372
Barium	0.295	U	0.124	mg/Kg	1	09/06/2005 5:01 PM	17372
Beryllium	ND		0.0366	mg/Kg	1	09/06/2005 5:01 PM	17372
Cadmium	ND		0.0743	mg/Kg	1	09/06/2005 5:01 PM	17372
Calcium	46.0		0.619	mg/Kg	1	09/06/2005 5:01 PM	17372
Chromium	0.099	J	0.0594	mg/Kg	1	09/06/2005 5:01 PM	17372
Cobalt	ND		0.124	mg/Kg	1	09/06/2005 5:01 PM	17372
Copper	0.18	J U	0.149	mg/Kg	1	09/06/2005 5:01 PM	17372
Iron	61.7		0.619	mg/Kg	1	09/06/2005 5:01 PM	17372
Lead	1.47		0.594	mg/Kg	1	09/06/2005 5:01 PM	17372
Magnesium	36.5		0.619	mg/Kg	1	09/06/2005 5:01 PM	17372
Manganese	0.685		0.0594	mg/Kg	1	09/06/2005 5:01 PM	17372
Nickel	ND		0.233	mg/Kg	1	09/06/2005 5:01 PM	17372
Potassium	12	J	2.48	mg/Kg	1	09/06/2005 5:01 PM	17372
Selenium	1.8	J U	1.29	mg/Kg	1	09/06/2005 5:01 PM	17372
Silver	ND		0.0594	mg/Kg	1	09/06/2005 5:01 PM	17372
Sodium	12.7	B U	1.24	mg/Kg	1	09/06/2005 5:01 PM	17372
Thallium	0.49	J U	0.441	mg/Kg	1	09/06/2005 5:01 PM	17372
Vanadium	0.53	J	0.149	mg/Kg	1	09/06/2005 5:01 PM	17372
Zinc	1.72		0.0743	mg/Kg	1	09/06/2005 5:01 PM	17372
PCBS			Method: SW8082			Analyst: BE	
Arodor 1016	ND	UJ	971	µg/Kg	1	09/09/2005 7:17 AM	17401
Arodor 1221	ND		971	µg/Kg	1	09/09/2005 7:17 AM	17401
Arodor 1232	ND		971	µg/Kg	1	09/09/2005 7:17 AM	17401
Arodor 1242	ND		971	µg/Kg	1	09/09/2005 7:17 AM	17401
Arodor 1248	ND		971	µg/Kg	1	09/09/2005 7:17 AM	17401
Arodor 1254	ND		971	µg/Kg	1	09/09/2005 7:17 AM	17401
Arodor 1260	ND	UJ	971	µg/Kg	1	09/09/2005 7:17 AM	17401
Surrogate: Tetrachloro-m-xylene	115		33.7 - 156	%REC	1	09/09/2005 7:17 AM	17401

(+UE

Qualifiers:

*	Value exceeds Maximum Contaminant Level 23 Sept 05	B	Analyte detected in the associated Method Blank
BaseReport-MDL-ConcFrac2004 c	Analyte not included in SLI scope of accreditation	E	Estimated, analyte detected above quantitation range
G	Refer to case narrative page for specific comments	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)	ND	Not Detected at the SLI Reporting Limit
Q	Internal standard recovery is outside SLI in-house criteria (no method specific requirements exist)	S	Spike Recovery outside accepted recovery limits

Suburban Laboratories, Inc.
4140 Litt Drive, Hillside, IL 60162 (708) 544-3260

Laboratory Results

Client ID: Tetra Tech EM Inc. **Report Date:** September 09, 2005
Project Name: Ingersol **Lab Order:** 05090026

Client Sample ID: WL-2 **Matrix:** OIL
Lab ID: 05090026-09A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 1:20 PM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
METALS BY ICP			Method: SW6010B			Analyst: RR	
Aluminum	24.4		2.40	mg/Kg	1	09/06/2005 5:11 PM	17372
Antimony	ND		1.44	mg/Kg	1	09/06/2005 5:11 PM	17372
Arsenic	ND		1.11	mg/Kg	1	09/06/2005 5:11 PM	17372
Barium	2.41		0.120	mg/Kg	1	09/06/2005 5:11 PM	17372
Beryllium	ND		0.0356	mg/Kg	1	09/06/2005 5:11 PM	17372
Cadmium	0.19	✗ U	0.0721	mg/Kg	1	09/06/2005 5:11 PM	17372
Calcium	264		0.601	mg/Kg	1	09/06/2005 5:11 PM	17372
Chromium	1.17		0.0577	mg/Kg	1	09/06/2005 5:11 PM	1737.
Cobalt	ND		0.120	mg/Kg	1	09/06/2005 5:11 PM	17372
Copper	10.9		0.144	mg/Kg	1	09/06/2005 5:11 PM	17372
Iron	857		0.601	mg/Kg	1	09/06/2005 5:11 PM	17372
Lead	66.3		0.577	mg/Kg	1	09/06/2005 5:11 PM	17372
Magnesium	71.7		0.601	mg/Kg	1	09/06/2005 5:11 PM	17372
Manganese	7.36		0.0577	mg/Kg	1	09/06/2005 5:11 PM	17372
Nickel	0.80	J	0.226	mg/Kg	1	09/06/2005 5:11 PM	17372
Potassium	4.3	J	2.40	mg/Kg	1	09/06/2005 5:11 PM	17372
Selenium	ND		1.25	mg/Kg	1	09/06/2005 5:11 PM	17372
Silver	ND		0.0577	mg/Kg	1	09/06/2005 5:11 PM	17372
Sodium	5.07	✗ U	1.20	mg/Kg	1	09/06/2005 5:11 PM	17372
Thallium	ND		0.428	mg/Kg	1	09/06/2005 5:11 PM	17372
Vanadium	0.16	J	0.144	mg/Kg	1	09/06/2005 5:11 PM	17372
Zinc	82.7		0.0721	mg/Kg	1	09/06/2005 5:11 PM	17372
PCBS			Method: SW8082			Analyst: BE	
Aroclor 1016	ND	UJ	943	µg/Kg	1	09/09/2005 7:57 AM	17401
Aroclor 1221	ND		943	µg/Kg	1	09/09/2005 7:57 AM	17401
Aroclor 1232	ND		943	µg/Kg	1	09/09/2005 7:57 AM	17401
Aroclor 1242	ND		943	µg/Kg	1	09/09/2005 7:57 AM	17401
Aroclor 1248	ND		943	µg/Kg	1	09/09/2005 7:57 AM	17401
Aroclor 1254	ND		943	µg/Kg	1	09/09/2005 7:57 AM	17401
Aroclor 1260	ND	UJ	943	µg/Kg	1	09/09/2005 7:57 AM	17401
Surrogate: Tetrachloro-m-xylene	67.5		33.7 - 156	%REC	1	09/09/2005 7:57 AM	17401

HUF

Qualifiers:

*	Value exceeds Maximum Contaminant Level 23 µg/L	B	Analyte detected in the associated Method Blank
c	Analyte not included in SLI scope of accreditation	E	Estimated, analyte detected above quantitation range
G	Refer to case narrative page for specific comments	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)	ND	Not Detected at the SLI Reporting Limit
Q	Internal standard recovery is outside SLI in-house criteria (no method specific requirements exist)	S	Spike Recovery outside accepted recovery limits

BaseReport-MDL CostFrac2004

Suburban Laboratories, Inc.
4140 Litt Drive, Hillside, IL 60162 (708) 544-3260

Laboratory Results

Client ID: Tetra Tech EM Inc. **Report Date:** September 09, 2005
Project Name: Ingersol **Lab Order:** 05090026

Client Sample ID: WL-3 **Matrix:** OIL
Lab ID: 05090026-10A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 1:30 PM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
METALS BY ICP			Method: SW6010B			Analyst: RR	
Aluminum	ND		2.43	mg/Kg	1	09/06/2005 5:22 PM	17372
Antimony	ND		1.46	mg/Kg	1	09/06/2005 5:22 PM	17372
Arsenic	ND		1.12	mg/Kg	1	09/06/2005 5:22 PM	17372
Barium	0.271	U	0.121	mg/Kg	1	09/06/2005 5:22 PM	17372
Beryllium	ND		0.0359	mg/Kg	1	09/06/2005 5:22 PM	17372
Cadmium	0.17	J U	0.0728	mg/Kg	1	09/06/2005 5:22 PM	17372
Calcium	5.94	B U	0.607	mg/Kg	1	09/06/2005 5:22 PM	17372
Chromium	0.13	J	0.0583	mg/Kg	1	09/06/2005 5:22 PM	17372
Cobalt	ND		0.121	mg/Kg	1	09/06/2005 5:22 PM	17372
Copper	48.2		0.146	mg/Kg	1	09/06/2005 5:22 PM	17372
Iron	25.5		0.607	mg/Kg	1	09/06/2005 5:22 PM	17372
Lead	12.7		0.583	mg/Kg	1	09/06/2005 5:22 PM	17372
Magnesium	0.75	J U	0.607	mg/Kg	1	09/06/2005 5:22 PM	17372
Manganese	0.335	U	0.0583	mg/Kg	1	09/06/2005 5:22 PM	17372
Nickel	0.30	J	0.228	mg/Kg	1	09/06/2005 5:22 PM	17372
Potassium	3.2	J	2.43	mg/Kg	1	09/06/2005 5:22 PM	17372
Selenium	ND		1.26	mg/Kg	1	09/06/2005 5:22 PM	17372
Silver	ND		0.0583	mg/Kg	1	09/06/2005 5:22 PM	17372
Sodium	6.33	B U	1.21	mg/Kg	1	09/06/2005 5:22 PM	17372
Thallium	ND		0.432	mg/Kg	1	09/06/2005 5:22 PM	17372
Vanadium	ND		0.146	mg/Kg	1	09/06/2005 5:22 PM	17372
Zinc	12.4		0.0728	mg/Kg	1	09/06/2005 5:22 PM	17372
PCBS			Method: SW8082			Analyst: BE	
Aroclor 1016	ND	UJ	935	µg/Kg	1	09/09/2005 8:37 AM	17401
Aroclor 1221	ND		935	µg/Kg	1	09/09/2005 8:37 AM	17401
Aroclor 1232	ND		935	µg/Kg	1	09/09/2005 8:37 AM	17401
Aroclor 1242	ND		935	µg/Kg	1	09/09/2005 8:37 AM	17401
Aroclor 1248	ND	S	935	µg/Kg	1	09/09/2005 8:37 AM	17401
Aroclor 1254	ND		935	µg/Kg	1	09/09/2005 8:37 AM	17401
Aroclor 1260	ND	UJ	935	µg/Kg	1	09/09/2005 8:37 AM	17401
Surrogate: Tetrachloro-m-xylene	70.0		33.7 - 156	%REC	1	09/09/2005 8:37 AM	17401

1+VE 23Sept05

Qualifiers:

BaseReport-MDL-ContFrac2004

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
c	Analyte not included in SLI scope of accreditation	E	Estimated, analyte detected above quantitation range
G	Refer to case narrative page for specific comments	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)	ND	Not Detected at the SLI Reporting Limit
Q	Internal standard recovery is outside SLI in-house criteria (no method specific requirements exist)	S	Spike Recovery outside accepted recovery limits

Suburban Laboratories, Inc.
4140 Litt Drive, Hillside, IL 60162 (708) 544-3260

Laboratory Results

Client ID: Tetra Tech EM Inc. **Report Date:** September 09, 2005
Project Name: Ingersol **Lab Order:** 05090026

Client Sample ID: WL-3D **Matrix:** OIL
Lab ID: 05090026-11A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 1:30 PM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
METALS BY ICP			Method: SW6010B			Analyst: RR	
Aluminum	ND		2.43	mg/Kg	1	09/06/2005 6:28 PM	17372
Antimony	ND		1.46	mg/Kg	1	09/06/2005 6:28 PM	17372
Arsenic	ND		1.12	mg/Kg	1	09/06/2005 6:28 PM	17372
Barium	0.22	✗ U	0.121	mg/Kg	1	09/06/2005 6:28 PM	17372
Beryllium	ND		0.0359	mg/Kg	1	09/06/2005 6:28 PM	17372
Cadmium	0.14	✗ U	0.0728	mg/Kg	1	09/06/2005 6:28 PM	17372
Calcium	6.03	✗ U	0.607	mg/Kg	1	09/06/2005 6:28 PM	17372
Chromium	0.15	J	0.0583	mg/Kg	1	09/06/2005 6:28 PM	1737
Cobalt	ND		0.121	mg/Kg	1	09/06/2005 6:28 PM	17372
Copper	41.2		0.146	mg/Kg	1	09/06/2005 6:28 PM	17372
Iron	26.6		0.607	mg/Kg	1	09/06/2005 6:28 PM	17372
Lead	11.0		0.583	mg/Kg	1	09/06/2005 6:28 PM	17372
Magnesium	1.1	✗ U	0.607	mg/Kg	1	09/06/2005 6:28 PM	17372
Manganese	0.290	U	0.0583	mg/Kg	1	09/06/2005 6:28 PM	17372
Nickel	0.27	J	0.228	mg/Kg	1	09/06/2005 6:28 PM	17372
Potassium	2.6	J	2.43	mg/Kg	1	09/06/2005 6:28 PM	17372
Selenium	ND		1.26	mg/Kg	1	09/06/2005 6:28 PM	17372
Silver	0.058	J	0.0583	mg/Kg	1	09/06/2005 6:28 PM	17372
Sodium	5.38	✗ U	1.21	mg/Kg	1	09/06/2005 6:28 PM	17372
Thallium	ND		0.432	mg/Kg	1	09/06/2005 6:28 PM	17372
Vanadium	ND		0.146	mg/Kg	1	09/06/2005 6:28 PM	1737
Zinc	10.1		0.0728	mg/Kg	1	09/06/2005 6:28 PM	17372
PCBS			Method: SW8082			Analyst: BE	
Aroclor 1016	ND	UJ	1000	µg/Kg	1	09/09/2005 10:37 AM	17401
Aroclor 1221	ND		1000	µg/Kg	1	09/09/2005 10:37 AM	17401
Aroclor 1232	ND		1000	µg/Kg	1	09/09/2005 10:37 AM	17401
Aroclor 1242	ND		1000	µg/Kg	1	09/09/2005 10:37 AM	17401
Aroclor 1248	ND		1000	µg/Kg	1	09/09/2005 10:37 AM	17401
Aroclor 1254	ND		1000	µg/Kg	1	09/09/2005 10:37 AM	17401
Aroclor 1260	ND	UJ	1000	µg/Kg	1	09/09/2005 10:37 AM	17401
Surrogate: Tetrachloro-m-xylene	52.5		33.7 - 156	%REC	1	09/09/2005 10:37 AM	17401

HVF

Qualifiers:

*	Value exceeds Maximum Contaminant Level 23/9/05	B	Analyte detected in the associated Method Blank
c	Analyte not included in SLI scope of accreditation	E	Estimated, analyte detected above quantitation range
G	Refer to case narrative page for specific comments	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)	ND	Not Detected at the SLI Reporting Limit
Q	Internal standard recovery is outside SLI in-house criteria (no method specific requirements exist)	S	Spike Recovery outside accepted recovery limits

BaseReport-MDL-ConcFrac2004

Suburban Laboratories, Inc.
4140 Litt Drive, Hillside, IL 60162 (708) 544-3260

Laboratory Results

Client ID: Tetra Tech EM Inc. **Report Date:** September 15, 2005
Project Name: Ingersol **Lab Order:** 05090027

Client Sample ID: AB-1 **Matrix:** SOLID
Lab ID: 05090027-01A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 12:50 PM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
ASBESTOS			Method: N7402			Analyst: ADM	
Other	attached report	c	0	wt%	1	09/08/2005 2:25 PM	R45296

Client Sample ID: AB-2 **Matrix:** SOLID
Lab ID: 05090027-02A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 12:55 PM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
ASBESTOS			Method: N7402			Analyst: ADM	
ther	attached report	c	0	wt%	1	09/08/2005 2:25 PM	R45296

Client Sample ID: AB-3 **Matrix:** SOLID
Lab ID: 05090027-03A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 1:00 PM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
ASBESTOS			Method: N7402			Analyst: ADM	
Other	attached report	c	0	wt%	1	09/08/2005 2:25 PM	R45296

Client Sample ID: AB-4 **Matrix:** SOLID
Lab ID: 05090027-04A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 1:05 PM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
ASBESTOS			Method: N7402			Analyst: ADM	
ıer	attached report	c	0	wt%	1	09/08/2005 2:25 PM	R45296

Client Sample ID: AB-5 **Matrix:** SOLID
Lab ID: 05090027-05A **Date Received:** 09/01/2005 1:30 PM **Collection Date:** 08/31/2005 1:07 PM

Parameter	Result	Qual.	Report Limit	Units	Dilution Factor	Date Analyzed	Batch ID
ASBESTOS			Method: N7402			Analyst: ADM	
Other	attached report	c	0	wt%	1	09/08/2005 2:25 PM	R45296

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
c	Analyte not included in SLI scope of accreditation	E	Estimated, analyte detected above quantitation range
G	Refer to case narrative page for specific comments	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)	ND	Not Detected at the SLI Reporting Limit
Q	Internal standard recovery is outside SLI in-house criteria (no method specific requirements exist)	S	Spike Recovery outside accepted recovery limits

BaseReport-MDL-ContFrac2004

UNITED ANALYTICAL SERVICES, INC.
1429 CENTRE CIRCLE DRIVE. DOWNERS GROVE, IL 60515
PHONE (630) 691-8277 FAX (630) 691-1819

PLM LABORATORY REPORT REVISED

METHOD: EPA/600/R-93/116 July 1993 PLM w/ Dispersion Staining	REPORT DATE: September 7, 2005
CLIENT: Suburban Laboratories	DATE RECEIVED: September 2, 2005
ATTENTION: Eric Yeggy	UAS SAM#: 0511571
FAX: 708-544-8587	JOB LOCATION: Tetra Tech

CLIENT SAMPLE #	LAB SAMPLE #	COLOR	DESCRIPTION/ LOCATION	ASBESTOS TYPE	%	OTHER FIBERS	%	MATRIX	%
B-1M 05090027 01A AB1M	0511571-01	Black	Mastic	CHRY	2	CELL	2	O	96
AB-1 05090027 01A AB1	0511571-02	Lt Brown Beige	Floor Tile	ND	–	CELL	<1	O	100
05090027 02A AB2M	0511571-03	Black	Mastic	CHRY	2	CELL	<1	O	98
AB-2 05090027 02A AB2	0511571-04	Lt Brown Beige	Floor Tile	ND	–	CELL	<1	O	100
AB-3 05090027 03A AB3	0511571-05	Gray White	Insulation	CHRY AMOS	2 35	CELL	<1	O	63
AB-4 05090027 04A AB4	0511571-06	Black White	Insulation	CHRY AMOS	2 40	CELL	<1	O	58

Analysis Comments:

Samples analyzed according to the EPA/600/R-93 166 July 1993 entitled Method for the Determination of Asbestos in Bulk Building Materials. Further testing by gravimetric or TEM Methods are recommended for samples that are non-friable, i.e., floor tiles, mastics, etc. Report shall not be reproduced except in full, without the written approval of the laboratory. Laboratory results pertain to those delivered for analysis. Samples will be discarded if not notified by the client within 90 days.

CODES- ASBESTOS	CODES- OTHER FIBERS	CODES- MATRIX
ND-None Detected	FBG-Fiber Glass	G-Gypsum
CHRY-Chrysotile	CELL-Cellulose	C-Calcium Carbonate
AMOS-Amosite	SYN-Synthetic	M-Mica
CROC-Crocidolite	WOLL-Wollastonite	O-Other Matrix
TREM-Tremolite	H-Hair	
ACTN-Actinolite	O-Other(Specify)	
ANTH-Anthophyllite		

ANALYZED BY- Karla Smith-Kasten — September 7, 2005 DATE ANALYZED

REVIEWED BY- Rebecca Frejek — September 7, 2005 DATE REVIEWED

PLM & TEM
NVLAP
NVLAP Laboratory # 101732

PCM
AIHA Laboratory # 101212

This report must not be used by the client to claim product endorsement by AIHA, NVLAP or any agency of the United States Government.

United Analytical Services, Inc./Laboratory/General/Laboratory PLM Report/12.03

Sep 14 2005 2:57PM United Analytical Service (630) 691-1819 p.2

UNITED ANALYTICAL SERVICES, INC.
1429 CENTRE CIRCLE DRIVE, DOWNERS GROVE, IL 60515
PHONE (630) 691-8271 FAX (630) 691-1819

PLM LABORATORY REPORT REVISED

METHOD:	EPA/600/R-93/116 July 1993 PLM w/ Dispersion Staining	**REPORT DATE:**	September 7, 2005
		DATE RECEIVED:	September 2, 2005
CLIENT:	Suburban Laboratories	**UAS SAM#:**	0511571
ATTENTION:	Eric Yeggy	**JOB LOCATION:**	Tetra Tech
FAX:	708-544-8587		

CLIENT SAMPLE #	LAB SAMPLE #	COLOR	DESCRIPTION/ LOCATION	ASBESTOS TYPE	%	OTHER FIBERS	%	MATRIX	%
05090027 05A AB5	0511571-07	Black	Mastic	CHRY AMOS	3 40	CELL	2	O	57

Analysis Comments:

Samples analyzed according to the EPA/600/R-93 166 July 1993 entitled Method for the Determination of Asbestos in Bulk Building Materials
Further testing by gravimetric or TEM Methods are recommended for samples that are non-friable, i.e., floor tiles, mastics, etc.
Report shall not be reproduced except in full, without the written approval of the laboratory.
Laboratory results pertain to those delivered for analysis.
Samples will be discarded if not notified by the client within 90 days.

CODES- ASBESTOS	CODES- OTHER FIBERS	CODES- MATRIX
ND-None Detected	FBG-Fiber Glass	G-Gypsum
CHRY-Chrysotile	CELL-Cellulose	C-Calcium Carbonate
AMOS-Amosite	SYN-Synthetic	M-Mica
CROC-Crocidolite	WOLL-Wollastonite	O-Other Matrix
TREM-Tremolite	H-Hair	
ACTN-Actinolite	O-Other(Specify)	
ANTH-Anthophyllite		

ANALYZED BY- Karla Smith-Kasten — September 7, 2005 DATE ANALYZED

REVIEWED BY- Rebecca Frejek — September 7, 2005 DATE REVIEWED

PLM & TEM
NVLAP Laboratory # 101732

PCM
AIHA Laboratory # 101212

This report must not be used by the client to claim product endorsement by AIHA, NVLAP or any agency of the United States Government.

United Analytical Services, Inc./Laboratory/General/Laboratory PLM Report/12.03

Sep 14 2005 2:57PM United Analytical Service (630) 691-1819 p.3

APPENDIX C

REMOVAL COST ESTIMATE

(One Page)

APPENDIX C (Cont.)
CEILING ESTIMATE FOR REMOVAL ACTION

EXTRAMURAL COSTS:	ESTIMATE
Cleanup Contractor	$1,265,416.20
Contingency (20 percent)	$253,083.24
Subtotal	$1,518,499.44
Total START	$135,000
Extramural Subtotal	$1,653,499.44
Extramural Contingency (20 percent)	$330,699.89
TOTAL EXTRAMURAL COSTS	**$1,984,199.33**
INTRAMURAL COSTS:	
U.S. EPA Direct Costs ($30 x 1,800 Regional Hours + 180 HQ Hours)	$59,400
U.S. EPA Indirect Costs ($65 x 1,800 Regional Hours)	$117,000
TOTAL INTRAMURAL COSTS	**$176,400.00**
TOTAL REMOVAL ACTION CEILING ESTIMATE	**$2,160,599.33**

Notes:

HQ = Headquarters
START = Superfund Technical Assessment and Response Team
U.S. EPA = U.S. Environmental Protection Agency

The estimate is based on 180 10-hour days of field activity.
START personnel will consist of one team member.

APPENDIX D

LIST OF WITNESSES

(One Page)

LIST OF WITNESSES

Mr. Thomas Cook
On-Scene Coordinator
Emergency Response Branch
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3507
Telephone No.: (312) 886-7182

David Franc
START Member
Tetra Tech EM Inc.
1 South Wacker Drive
37th Floor
Chicago, IL 60606-4651
Telephone No.: (312) 201-7778

Mary Wojceichowski
START Member
Tetra Tech EM Inc.
1 South Wacker Drive
37th Floor
Chicago, IL 60606-4651
Telephone No.: (312) 201-7786

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

NOV 23 2005

9003002

MEMORANDUM

REPLY TO THE ATTENTION OF

SUBJECT: ACTION MEMORANDUM- Request for a CERCLA Time-Critical Removal Action at the Ingersoll Site, Chicago, Cook County, Illinois

FROM: Thomas Cook, On-Scene Coordinator
Emergency Response Branch - Section 3

TO: Richard C. Karl, Director
Superfund Division

THRU: Linda M. Nachowicz, Chief
Emergency Response Branch

I. PURPOSE

The purpose of this memorandum is to request and document your approval to expend up to $1,662,367 in order to mitigate an imminent and substantial threat to public health and the environment that is posed by the presence of uncontrolled hazardous wastes and substances at the Ingersoll site, at 1000 West 120th Street, Chicago, Cook County, Illinois.

The presence of hazardous substances existing at the site have been documented and include, friable asbestos in deteriorated pipe insulation and floor tiles, open pits containing waste oil, and PCB contaminated transformer pads.

The site is not on the National Priorities List, does not set any precedents and is not considered nationally significant.

II. SITE CONDITIONS AND BACKGROUND

Site ID#: B5CW
CERCLIS ID # Pending

The Ingersoll site is located in an industrial area at 1000 West 120th Street in Chicago, Cook County, Illinois (see Figure 1). The site is bordered by 119th Street to the north, South Morgan Street to the east, 120th Street to the south, and vacant industrial properties to the west. The geographic coordinates for the site are latitude 41°40'35" north and longitude 87°38'49" west. The site property measures approximately 12

acres and includes several interconnected, vacant buildings. A fire in the summer of 2004 destroyed a portion of the former administration areas located in the southeast portion of the site. The fence surrounding the site contains several large gaps.

An environmental justice analysis has been prepared for the area surrounding the site (Attachment B). According to the Region 5 Superfund Environmental Justice Analysis, the group of residents closest to the site fall within census block group 1, with a population of 1511 persons. Demographics for the residents in this census group indicate 38% with a low- income, with 98% having minority status. In Illinois, the low-income percentage is 27% and the minority percentage is 32%. To meet the Environmental Justice (EJ) concern criteria, the area within 1 mile of the site must have a population that is twice the state low-income percentage and/or twice the state minority percentage. That is, the area must be at lease 54% low-income and/or 50% minority. Therefore, the site does meet the Region's EJ criteria based on demographics, as defined in "Region 5 Interim Guidelines for Identifying and Addressing a Potential EJ Case", June 1998.

The Ingersoll site has a history of industrial machining and oil use for 90 years. Borg-Warner purchased the property in 1929, and in that same period, acquired Ingersoll Steel Disc Division, manufacturer of agricultural accessories including disc blades. According to former Borg-Warner employees, electronic enclosures, hospital beds, bathtubs and sinks were also manufactured on site. During the Korean conflict, wing tanks were built, and during the Vietnam war bomb shell casings were made on the site. According to a 1975 Sanborn Fire Insurance map, an electromelt foundry was operating in the building where steel was manufactured. The former foundry building is now used as storage space.

The 1911 Sanborn Map indicates that the eastern portion of Study Area No. 7 was operated by Whitman & Barnes Manufacturing Company for the production of lawn mowers and haymaking tools. Included on the 1911 map was a machine shop, an oil house, a gas machine room, an underground gas oil tank, fuel oil tanks, four heater rooms, two engines, and two dynamos. The 1939 Sanborn Map indicates that the site was operated by the Ingersoll Steel Disk Division of Borg-Warner Corporation. The 1939 Sanborn Map shows many additions to the site including four transformer rooms, a Commonwealth Edison electrical substation, an enameling room, an above ground (AST) oil tank, three oil houses, and a pickling area. The 1950 Sanborn Map shows additions to the site including a sulfuric acid tank, additional enameling rooms, and a cleaning room. The 1975 Sanborn Map indicates additions to the site including a dipping room, an oven, and an annealing room.

In July 1992, Weston completed a Phase I ESA report for the Ingersoll site. The purpose of this report was to identify possible areas of environmental concern in comparison with past and present site uses. The Phase I ESA identifies these areas of concern:

- Contaminated soils from oils stored and used during the manufacturing process
- Petroleum contamination in areas where underground storage tanks (UST) were located
- Polychlorinated biphenyls (PCB) contamination in areas where older transformers were located
- Soil contamination from foundry sands where steel was manufactured

Weston recommended the collection of soil samples for benzene, toluene, ethylbenzene, and xylene (BTEX), and PCB analysis, a geophysical survey in order to identify any additional UST's, a Phase I asbestos survey to identify any asbestos present at the site, and the collection of foundry soils for phenol and metals analysis.

In August through October 1994, VSC was contracted by Ingersoll to conduct a Phase II ESA to further evaluate areas of concern (AOC) identified in Weston's Phase I ESA. The Phase II ESA was conducted in three stages, the first was to conduct headspace screenings of site soils, the second to install eight groundwater monitoring wells, and the third to advance additional monitoring well and soil boring locations to investigate areas with higher contaminant concentrations.

The first stage of the Phase II ESA was to conduct a BTEX headspace soil screening at multiple depths at 30 different soil sample locations, designated SS-1 to SS-30. In addition to the headspace readings, 10 soil samples were collected from sample locations SS-1 to SS-10 for solvent, PCB, petroleum, volatile organic compounds (VOC) and semivolatile organic compounds (SVOC), and heavy metals analysis. Soil samples for all analytes except PCB's were collected at shallow depths, and samples collected for PCB's were collected from approximately 1 foot below the saturated soil zone. According to VSC, the stage one soil analysis and headspace readings indicated no significant VOC, SVOC, PCB or metals contamination.

Stage two of the Phase II ESA was to install eight permanent groundwater monitoring wells designated MW-1 to MW-8. The primary purpose of wells MW-1 through MW-8 was to collect water elevation and groundwater flow data.

Stage three of the Phase II ESA was to advance five more groundwater monitoring wells, MW-9 through MW-13, and to advance five more soil borings at sample locations SS-11 through SS-15. Groundwater samples were collected at MW-1, MW-6, and MW-9 through MW-13, and analyzed for VOC, SVOC, polynuclear aromatic hydrocarbons (PAH) and metals. Composite soil samples were collected from the 0-4 feet below ground surface (bgs) interval in MW-9 through MW-13 and SS-11 through SS-15 for

metals analysis. Groundwater or soil samples were not analyzed for PCB's due to sample results in stage one.

According to VSC's Phase II ESA, soil analytical results during the stage three activities indicated that only lead, at a concentration of 0.150 milligrams per kilogram (mg/kg), exceeded Illinois Pollution Control Board (IPCB) Class II criteria for metals in soil of 0.100 mg/kg. Groundwater samples collected by VSC indicated no SVOCs or PAHs in the groundwater and all results for metals analysis were either below detection limits or below IPCB regulatory standards. One VOC, 1,1-Dichloroethane (1,1-DCA), was detected in MW-1 at a concentration of 0.150 milligrams per liter (mg/L), exceeding the IPCB Class II groundwater standard of 0.025 mg/L. Ingersoll's consultant, VSC, recommended no further action at this site. In May 1996, Harza submitted a multi-site Phase I ESA to the CDOE. In that report was a Phase I ESA for the abandoned railroad bed on the northern portion of Study Area No. 7. The objective of the Phase I ESA was to evaluate the potential to redevelop brownfield sites in WIRA. The report was intended to identify two types of information; (1) planning data to identify areas of interest for brownfield redevelopment and (2) site-specific data, intended to identify areas of potential environmental concern. On January 26 and 27, 2004, Tetra Tech performed a limited Phase II ESA at the Ingersoll site. Tetra Tech advanced a total of 9 Geoprobe soil borings at the site and collected 18 soil samples, 2 groundwater samples, and 13 wipe samples. All of the soil borings were advanced to 10 feet below ground surface (bgs) except SB-07, which was advanced to 11 feet bgs. Soil samples were collected from the 0- to 3-foot bgs interval and from the 3- to 10-foot bgs interval for laboratory analysis. Soil borings SB-02 and SB-09 were converted into temporary groundwater monitoring wells. The wipe samples were collected from the floor of the 13 separate transformer room locations.

The results from the limited Phase II ESA conducted by Tetra Tech indicated that SVOCs, metals, and PCBs concentrations that exceed the TACO Teir 1 remediation objectives for the ingestion exposure route for industrial-commercial properties. PCB contamination was found in the soil, with levels ranging from 2ppm to 3.5 ppm Furthermore, wipe sample results indicate that PCB-containing oils, some at TSCA-regulated levels, have impacted the concrete at 6 of the 13 transformer room locations.

U. S EPA Site Assessment Activities

At approximately 11:00 a.m. on August 31, 2005, U.S. EPA On-Scene Coordinator (OSC) Thomas Cook, City of Chicago Department of Environment (CDOE) representative Terry Sheehan, and START members Dave Franc and Mary Wojciechowski met at the Ingersoll site to conduct a site reconnaissance and sampling activities.

OSC Cook, Mr. Sheehan, and START conducted a reconnaissance of the site. The former administration areas were completely destroyed by fire; however, in these building areas, floor tile remained on the open ground in an extremely damaged and

friable condition. Much of the floor tile observed in this area was present in layers, with older tile underlying newer floor tile.

Asbestos-containing materials (ACM), transformers, and fluorescent light ballasts are discussed below.

Based on observations made during the site reconnaissance, a significant amount of ACM is present at the property. All of the ACM (piping insulation, floor tile) was extremely deteriorated, damaged, and friable. Much of the ACM had fallen to the floors of the structures.

Manholes inside the structures that were observed contained piping wrapped in ACM. Large ovens containing potential ACM bricks were observed in one oven in Building 515 and five ovens in Building 924.

START inspected the former transformer areas and noted that all of the transformers had been removed. Significant oil staining was observed on the floor at each former transformer location. Oil at several of these transformer locations had been previously tested and found to contain up to 300,000 parts per million PCBs.

Manholes observed inside and outside the buildings contained oil and sludge. Building 920 is a small garage with a large overhead door and a wooden floor. The wooden floor is significantly damaged, and a large amount of oil was visible beneath the floor. Manholes on the outside of Building 920 also contain oil.

Large pits measuring approximately 9 x 9-feet, with significant oil staining and oily sludge, were observed in Buildings 912, 924, 1012, and 1014.

START conducted sampling activities at the site on August 31, 2005 as part of the removal site asessment. To evaluate whether the Ingersoll site poses a threat to human health or the environment, START collected 6 wipe samples from the floors of transformer rooms, 5 bulk asbestos samples from piping insulation and floor tile, and 3 liquid waste samples from waste oil pits. START collected the samples under the direction of U.S. EPA OSC Cook, who determined the exact locations and media to be sampled. The determination was based on previous knowledge of the site and observations made during the site reconnaissance. All sampling was performed in Level D personal protective equipment (PPE). The samples were submitted to Suburban Laboratories, Inc. (Suburban) in Hillside, Illinois, for analysis for asbestos, polychlorinated biphenyls (PCB), and total Resource Conservation and Recovery Act (RCRA) metals. Wipe samples were collected from the floor of former transformer room numbers 1, 6, 9, 10, 12, and 13.

Asbestos samples AB-1 and AB-2 were collected from exposed flooring tile located in the former administration area. The samples were moistened with distilled water and placed in a sample bag for asbestos analysis.

Asbestos samples AB-3, AB-4, and AB-5 were collected from pieces of piping insulation that had fallen onto the floor in Buildings 1012 and 1014. The samples were moistened with distilled water and placed in a sample bag for asbestos analysis.

Liquid waste sample WL-1 was collected from liquid observed beneath the wooden floor of Building 920. The sample was analyzed for PCBs and RCRA metals.

Liquid waste sample WL-2 was collected from a pit located in Building 912. The sample was analyzed for PCBs and RCRA metals.

Liquid waste sample WL-3 was collected from a pit located in Building 924. The sample was analyzed for PCBs and RCRA metals.

START obtained laboratory analytical results for 6 wipe samples, 5 bulk asbestos samples, and 3 liquid waste samples collected at the Ingersoll site. The samples were submitted under analytical TDD No. S05-0508-019 to Suburban for analysis for asbestos, PCBs, and total RCRA metals. Analytical parameters were chosen based on the criteria for identification of hazardous waste set forth in 40 CFR Part 261. Analytical results for the 6 wipe samples are presented in Table 1, results for the 5 bulk asbestos samples are presented in Table 2, and results for the liquid waste samples are presented in Table 3. Analytical parameters and significant analytical results are discussed below.

Wipe samples WP-01, WP-09, WP-10, and WP-13 contained PCB concentrations that exceeded the Toxic Substances Control Act (TSCA) remediation objective of 100 $\mu g/100\ cm^2$ for restricted areas. Wipe samples WP-06 and WP-12 contained PCB concentrations that exceeded the TSCA remediation objective of 10 $\mu g/100\ cm^2$ for unrestricted areas. The highest estimated concentration detected was 457,000 $\mu g/100\ cm^2$ (WP-01).

Suspected asbestos samples AB-1 and AB-2 were divided into 2 separate samples each (mastic and floor tile) by the laboratory prior to being analyzed. The AB-1 and AB-2 floor tile samples did not contain any detectable asbestos fibers. The AB-1 and AB-2 mastic samples both contained approximately 2 percent asbestos fibers (chrysotile).

Suspected asbestos samples AB-3, AB-4, and AB-5 each contained detectable asbestos fibers (up to 3 percent chrysotile and 40 percent amosite).

Liquid waste samples WL-1, WL-2, and WL-3 all contained low concentrations of metals and did not contain any detectable PCB concentrations. However, the matrix spike and matrix spike duplicate (MS/MSD) sample collected gave zero recovery.

Therefore, the laboratory analytical results could not confirm the presence of PCB and all non-detects should be considered estimated.

III. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Paragraph (b)(2) of 40 CFR Section 300.415 lists factors to be considered when determining the appropriateness of a potential removal action at a site. Those factors applicable to the Ingersoll site are summarized below.

Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances or pollutants or contaminants

The Ingersoll site is fenced. However, access to the site buildings is virtually unrestricted through gaps in the fencing and openings in the buildings' outer walls, allowing access to the interiors of all the buildings and contact with numerous pits filled with oil, ACM piping insulation and mastic, and former transformer rooms with surfaces containing very high PCB concentrations. Evidence of trespassing was observed throughout the site buildings. A chain-link fence exists, however, areas of the fence have been cut away or are down and gate locks have ben removed, allowing access to the site. Brick scavengers have removed bricks throughout the site. A fire at the site in the summer of 2004 destroyed portions of Buildings 111, 112, 113, and 114, exposing friable asbestos to the atmosphere. In addition, piping insulation was identified outside of the fence.

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that pose a threat of release

Numerous pits containing suspected PCB-containing oil are located at the Ingersoll site.

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released

The existing buildings at the site have numerous large holes in the roof. Pipe insulation containing asbestos fibers has fallen onto the floor as a result of the exposed conditions. Floor tile with asbestos-containing mastic material is exposed to the air as a result of fire damage.

Threat of fire or explosion

The Ingersoll site has already been subjected to fire damage. Because the site access is still unrestricted, the possibility of another fire at the site still exists.

The availability of other appropriate federal or state response mechanisms to respond to the release

In August 2005, CDOE requested U.S. EPA's assistance with the Ingersoll site.

IV. ENDANGERMENT DETERMINATION

Given the nature of the hazardous substances on site, and the potential exposure pathways described in Sections II and III of the action memo referenced above, the actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances or contaminants at the site which may pose an imminent and substantial endangerment to public health and safety, and to the environment. These response actions do not impose a burden on the affected property disproportionate to that which the property contributes to the conditions being assessed.

The proposed time-critical response action includes the following actions:

1. Prepare a Health and Safety Plan and Work Plan to address the sampling and removal of Hazardous materials. The Work Plan shall also contain a sampling plan with proper Quality Assurance/Quality Control (QA/QC) and shall outline the selection of a certified lab which is in good standing;

2. Procure an environmental contractor with proper training, experience and credentials to conduct the on-site work. All contractors and personnel must be 40-hour OSHA-trained for hazardous materials management and must show certificates of their training and medical monitoring;

3. Remove, transport and dispose of contaminated standing water, and oil in pits in full compliance with CERCLA, RCRA and all applicable laws; and

4. Properly address any additional hazardous waste and/or materials identified during the removal action.

5. Remove PCB contaminated transformer pads and friable asbestos contaminated pipe insulation

Waste transportation and disposal will be handled in full compliance with the Agency's Off-Site Rule 40 CFR Section 300.440, 58 Federal Register 49215 (September 22, 1993).

The removal action will be taken in a manner not inconsistent with the NCP. Provisions for post-removal site control are being planned by the OSC consistent with the provisions of Sections 300.415(k) of the NCP. It is envisioned that after implementation of this removal action, there will be no need for post-removal site control.
The removal action will require an estimated 180 on-site working days to complete

The detailed cleanup contractor cost estimate is presented in Attachment 2 and estimated project costs are summarized below:

REMOVAL PROJECT CEILING ESTIMATE

EXTRAMURAL COSTS:

Regional Removal Allowance Costs:	**$ 1,602,367**
Total Cleanup Contractor Costs (ERRS and subcontractors for the proposed time-critical removal action which includes a 20% contingency).	
Other Extramural Costs Not Funded from the Regional Allowance:	
Total START, including multiplier costs	$ 60,000
Subtotal, Extramural Costs	$ 1,662,367
TOTAL, REMOVAL ACTION PROJECT CEILING	**$ 1,662,367**

The response actions described in this memorandum directly address the actual or threatened release at the site of a hazardous substance, or of a pollutant, or of a contaminant which may pose an imminent and substantial endangerment to public health or welfare or to the environment.

Applicable or Relevant and Appropriate Requirements (ARARs)

On September 30, 2005, OSC Cook sent a letter to Bruce Everetts, Illinois EPA, requesting State ARARs. Any state ARARs identified in a timely manner for this removal action will be complied with to the extent practicable.

All hazardous substances, pollutants or contaminants removed off site pursuant to this removal action for treatment, storage and disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-site Rule, 40 CFR § 300.440, 58 Federal Register, 49215 (September 22, 1993).

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Continued risk to public health and the environment will result if no action or delayed action ensues at the Ingersoll Site.

VII. OUTSTANDING POLICY ISSUES

None

VIII. ENFORCEMENT

Please refer to the Enforcement Confidential Addendum

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be $ 2,579,162[1]

(1,602,367+ 60,000) + (55.15% x 1,662,367) =$ 2,579,162

[1] Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgement interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States's right to cost recovery.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Ingersoll Site, Chicago, Cook County, Illinois. This document has been developed in accordance with CERCLA as amended and is consistent with the NCP. This decision is based on the Administrative Record for the site (within Attachment I). Conditions at the site meet the NCP S300.415 (b)(2) criteria for a time-critical removal action and I recommend your approval of the proposed action. The total removal project, if approved, will be $1,662,367 of which $1,602,367 may be used for the cleanup contractor costs. You may indicate your decision by signing below.

APPROVE: _____ for Richard Karl DATE: 11/22/05
Director
Superfund Division

DISAPPROVE: _____ DATE: _____
Director
Superfund Division

Attachments:
I. Enforcement Addendum
II. ERRS Contractor Costs
III. Figure I
IV. EJ Analysis

cc: D. Chung, U.S. EPA, 5203-G
M. Chezik, U.S. DOI, w/o Enf. Addendum
B. Everetts, Illinois EPA w/o Enf. Addendum
S. Davis, Illinois DNR w/o Enf. Addendum

BCC PAGE

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

(REDACTED 1 PAGE)

ENFORCEMENT ADDENDUM TO ACTION MEMORANDUM

INGERSOLL PRODUCTS COMPANY, INC. SITE
CHICAGO, COOK COUNTY, ILLINOIS
OCTOBER 2005

(REDACTED 2 PAGES)

ENFORCEMENT CONFIDENTIAL
NOT SUBJECT TO DISCOVERY
FOIA EXEMPT

ATTACHMENT 2

DETAILED CLEANUP CONTRACTOR ESTIMATE
INGERSOLL SITE
CHICAGO, ILLINOIS

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

TABLE 1

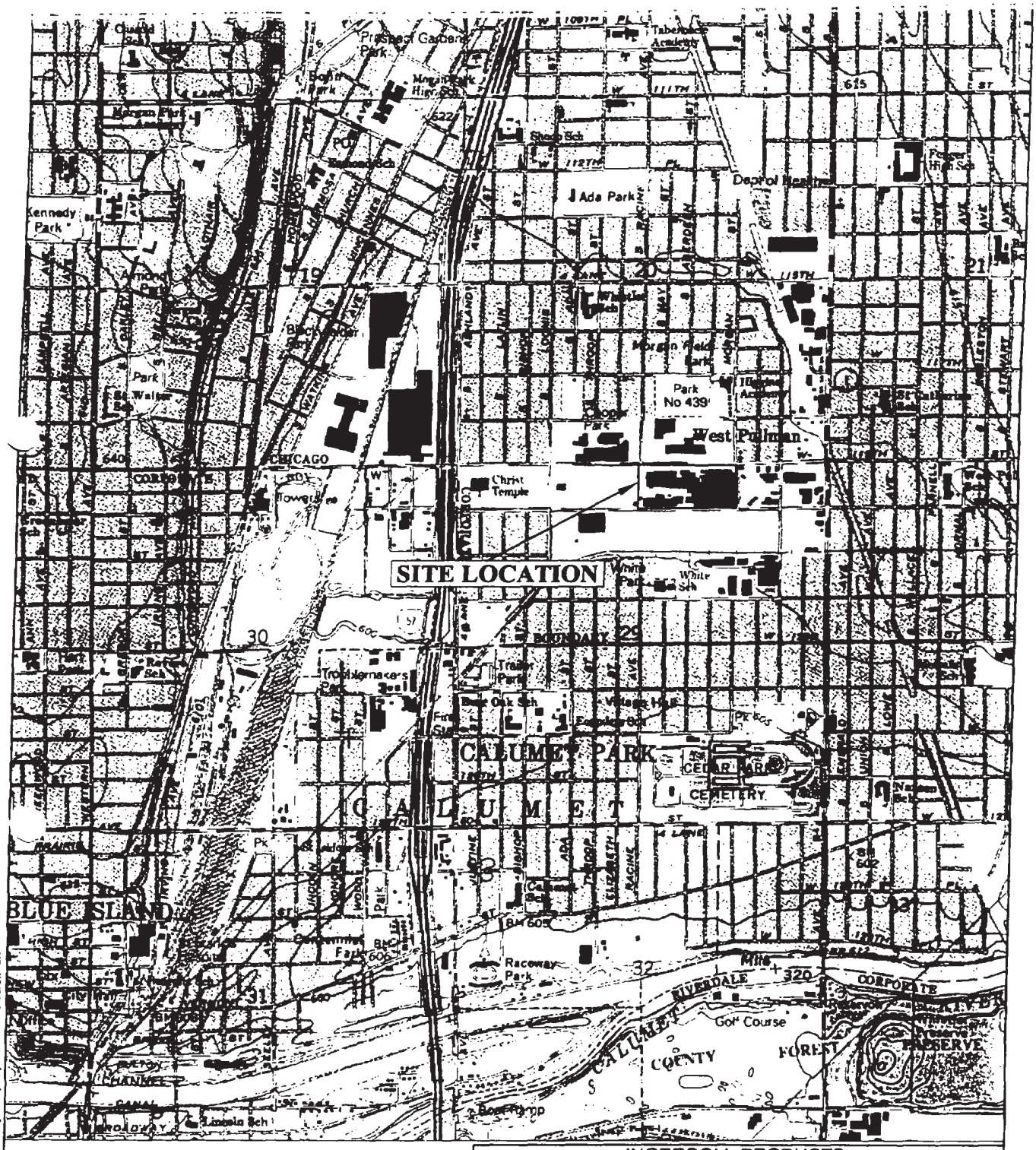
WIPE ANALYTICAL RESULTS
INGERSOLL SITE

Sample ID	**WP-01**	**WP-06**	**WP-09**	**WP-10**	**WP-12**	**WP-13**
Sampling Date	**08/31/05**	**08/31/05**	**08/31/05**	**08/31/05**	**08/31/05**	**08/31/05**
Polychlorinated biphenyls (µg/100cm²)						
Aroclor 1016	ND	ND	ND	ND	ND	ND
Aroclor 1221	ND	ND	ND	ND	ND	ND
Aroclor 1232	ND	ND	ND	ND	ND	ND
Aroclor 1242	ND	ND	ND	ND	ND	ND
Aroclor 1248	ND	ND	ND	ND	ND	ND
Aroclor 1254	**457,000 J**	ND	ND	ND	ND	ND
Aroclor 1260	ND	**15.3**	**87,600 J**	**31,100 J**	**77.1 J**	**87,900 J**

TABLE 2
BULK ASBESTOS ANALYTICAL RESULTS
INGERSOLL SITE

Sample ID	Sample Description	Asbestos Type	Percent Asbestos	Other Fibers	Percent Fibers
AB-1	Black Mastic	Chrysotile	**2**	Cellulose	2
AB-1	Floor Tile	ND	ND	Cellulose	<1
AB-2	Black Mastic	Chrysotile	**2**	Cellulose	<1
AB-2	Floor Tile	ND	ND	Cellulose	<1
AB-3	Pipe Insulation	Chrysotile	**2**	Cellulose	<1
		Amosite	**35**		
AB-4	Pipe Insulation	Chrysotile	**2**	Cellulose	<1
		Amosite	**40**		
AB-5	Pipe Insulation	Chrysotile	**3**	Cellulose	2
		Amosite	**40**		

Notes:



INGERSOLL PRODUCTS
1000 W. 120th STREET
CHICAGO, ILLINOIS
TDD NO.: S05-0508-018

FIGURE 1
SITE LOCATION MAP

Tetra Tech EM Inc.

SOURCE: MODIFIED FROM USGS, 7.5-MINUTE TOPOGRAPHIC MAP OF BLUE ISLAND, ILLINOIS, QUADRANGLE, 1993

G:\G\9009\U0508018\ IngersollSiteloc.dwg 09/15/2005 chris.carron CH

ATTACHMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
INGERSOLL SITE
CHICAGO, COOK COUNTY, ILLINOIS

ORIGINAL
OCTOBER 2, 2005

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	10/02/05	Tetra Tech EM, Inc.	U.S. EPA	Final Site Assessment for the Ingersoll Products Site w/Cover Letter	60
2	00/00/00	Cook, T., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum: Request for a CERCLA Removal Action at the Ingersoll Site **(PENDING)**	